Skip to main content

Global KnowledgeTop of Form

Bottom of Form

M55341A | Lab 1

* [Home](https://gk.labsonline.it/Labs/DelegateLab/f11e3a09-c47c-ef11-9561-00155d800002)
* [Lab Guide](https://gk.labsonline.it/Labs/DelegateLab/f11e3a09-c47c-ef11-9561-00155d800002)

 Lab Guide

Lab 1: Installing, managing and migrating Windows Server

Lab: Installing and configuring Server Core

**Scenario**

Your team in the IT department at Adatum Corporation just purchased a new server that has no operating system. The team decides to install Windows Server 2022 Datacenter Evaluation in Server Core mode to test Server Core functionality. Your task is to perform the installation and configuration of this server. You will name it LON-SVR6, give it a static IP address of 172.16.0.26, and join it to the Adatum.com domain with all other default settings.

You have also purchased another server that has already been commissioned with Windows Server 2022 Datacenter edition and now need to migrate a legacy Windows Server 2012 R2 File Server to the Windows Server 2022 server.

Exercise 1: Installing Server Core

**Scenario**

You determine that Server Core offers you the best installation option and decide to evaluate a server that uses Server Core. The main task for this exercise is as follows:

* Install Windows Server 2022 Datacenter Evaluation on LON-SVR6.

Task 1: Install Windows Server 2022 Datacenter Evaluation on LON-SVR6

1. Ensure the [**LON-SVR6**](urn:gd:lg:a:select-vm) virtual machine is selected and click the **Start VM** icon.

**Note**: The Windows Server 2022 ISO has already been attached to the virtual machine for you.

1. After a moment, the setup program for Microsoft Server Operating System setup appears. On the **Enter your language and other preferences and click "Next" to continue** page of Windows Setup, click **Next**.
2. On the **Install** page, click **Install Now**.
3. On the **Select the operating system you want to install** page, select **Windows Server 2022 Datacenter Evaluation**, and then click **Next**.
4. In the **Applicable notices and licenses terms** page, select the **I accept the license terms** check box, and then click **Next**.
5. On the **Which type of installation do you want?** page, select **Custom**.
6. On the **Where do you want to install Windows** page, select **Next**.
7. The **Installing Microsoft Server Operating System** page appears.

**Note:** It takes about five minutes for the installation to complete. Once the installation is complete and the Virtual Machine reboots, you do not need to press any key to continue as this will boot back into the Windows installation environment.

1. When the installation completes, **LON-SVR6** restarts. After some time, a **Command Prompt** window opens and displays the following text:

**Administrator**  
**The user's password must be changed before signing in.**  
**Ok**  
**Cancel**

1. Note that the **OK** text line is highlighted. Press Enter.
2. The **Command Prompt** window text changes to the following:

**Enter new credentials for Administrator or hit ESC to cancel.**

1. Below this, in the **New password** text line, type [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys) and then press the Tab key. In the **Confirm password** text line, type [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys) and then press Enter. The text in the **Command Prompt** window changes to:

**Your password has been changed.**  
**Ok**

1. Note that the OK text line is highlighted. Press Enter.
2. At this point, the **Command Prompt** window opens with the system configuration menu.

**Results**: After completing this exercise, you will have successfully installed the Windows Server 2016 Core operating system on **LON-SVR6**.

Exercise 2: Completing post-installation tasks on Windows Server 2022 Core

**Scenario**

You must now complete the installation of Server Core by configuring the post-installation settings and joining it to the Adatum.com domain. You will also install the DNS Server role.

The main task for this exercise is as follows:

* Use Windows PowerShell and Sconfig.cmd to configure the settings of Server Core.

Task 1: Use Windows PowerShell and Sconfig.cmd to configure the settings of Server Core

1. Ensure you are still on [**LON-SVR6**](urn:gd:lg:a:select-vm)
2. On the Sconfig window note that the computer name is initially a randomly selected host name. In most cases, you will need to change the host name.
3. In the Sconfig windows enter [**15**](urn:gd:lg:a:send-vm-keys) and press **Enter**.
4. In the **Command Prompt** window, type the following, and then press Enter:
5. Get-NetIPAddress | FT IPAddress
6. Note the IPv4 address of 172.16.0.x. This is a DHCP address that was received from the DHCP Server service that is running on **LON-DC1**. While you can use this address, you would normally use a static IP address for servers that host server roles.
7. In the **Command Prompt** window, type [**sconfig.cmd**](urn:gd:lg:a:send-vm-keys) and then press Enter.
8. To select **Network Settings**, type [**8**](urn:gd:lg:a:send-vm-keys), and then press 8Enter.
9. For **Select Network Adapter Index #**, type [**1**](urn:gd:lg:a:send-vm-keys), and then press Enter.
10. On this screen, note the three options at the bottom. Select each of the following numbers, and then set the following values by typing them and pressing Enter:
11. Press [**1**](urn:gd:lg:a:send-vm-keys) then press Enter. Set Network Adapter Address: Enter [**S**](urn:gd:lg:a:send-vm-keys) to select **Static IP Address**, Enter **static IP Address**: [**172.16.0.26**](urn:gd:lg:a:send-vm-keys), **Enter Subnet Mask**: [**255.255.0.0**](urn:gd:lg:a:send-vm-keys), Enter **Default Gateway**: [**172.16.0.1**](urn:gd:lg:a:send-vm-keys) then press **Enter** to continue.
12. You will be returned to the main menu. Enter [**8**](urn:gd:lg:a:send-vm-keys) again then press **Enter**. Then select the network adapter by entering [**1**](urn:gd:lg:a:send-vm-keys) and pressing Enter.
13. Enter [**2**](urn:gd:lg:a:send-vm-keys) to Set DNS Server. **Enter new preferred DNS server:** [**172.16.0.10**](urn:gd:lg:a:send-vm-keys), click **OK** in the **Network Settings** pop up window, and then in **Enter alternate DNS server**, press Enter.
14. In the main **Server Configuration** window, at the **Enter number to select an option** prompt, type [**1**](urn:gd:lg:a:send-vm-keys), and then press Enter.
15. At the **Change Domain/Workshop Membership** prompt, type [**D**](urn:gd:lg:a:send-vm-keys) for domain, and then press Enter.
16. At the **Name of Domain to join** prompt, type [**Adatum.com**](urn:gd:lg:a:send-vm-keys) and then press Enter.
17. At the **Specify an authorized domain\user** prompt, type **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** and then press Enter.
18. In the **Netdom.exe Command Prompt** window, type [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys) and then press **Enter**.
19. The **Change computer name** prompt appears. Enter [**Y**](urn:gd:lg:a:send-vm-keys) and press **Enter**.
20. At the **Enter new computer name** prompt, type [**LON-SVR6**](urn:gd:lg:a:send-vm-keys) and then press Enter.
21. When prompted for the password for Adatum\AdatumAdmin type [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys) and then press **Enter**.
22. When the **Restart now** prompt appears, Enter [**Y**](urn:gd:lg:a:send-vm-keys) and press **Enter**.
23. After **LON-SVR6** restarts, send the [**CTRL+ALT+DEL**](urn:gd:lg:a:send-vm-key-combo) command, and then the **Command Prompt** window displays the following text:

**Enter credentials for Administrator or hit ESC to switch users/sign-in methods Password:**

1. Press **Esc** twice then select **Other user**.
2. Enter the username **[AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** and press Tab. Enter the password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys), and then press Enter.
3. The Sconfig menu will automatically load. Exit to the command line by entering [**15**](urn:gd:lg:a:send-vm-keys) and pressing **Enter**.
4. In the **Command Prompt** window, type the following, and then press Enter:
5. $env:computername
6. Note that the name **LON-SVR6** displays.
7. In the **Command Prompt** window, type the following, and then press Enter:
8. Get-NetIPAddress | FT IPAddress

**Note:** that the IPv4 address 172.16.0.26 displays.

1. Type the following, and then press Enter:
2. Install-WindowsFeature DNS
3. Text appears stating that the DNS Server value in the **Success** column is **True**.

**Results** : After completing this exercise, you will have successfully configured the domain and network settings of Server Core and install an additional role.

Exercise 3: Performing remote management

**Scenario**

Now that you added the DNS Server role to Server Core on LON-SVR6, you want to explore configuring the DNS settings and configuration by using the Widnows Admin Center.

The main tasks for this exercise are as follows:

* Configure remote management using the Windows Admin Center
* Add the Adatum.com zone to LON-SVR6 as a secondary zone.
* Examine the new zone information on LON-SVR6.

Task 1: Configure remote management using the Windows Admin Center

1. Switch to [**LON-MGT1**](urn:gd:lg:a:select-vm).
2. Send the [**CTRL+ALT+DEL**](urn:gd:lg:a:send-vm-key-combo) command and login on as **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** with the password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys)
3. Open **Microsoft Edge** and select the **Windows Admin Center** favourite button.

**Note**: The Windows Admin Center (WAC) has been preinstalled in the lab environment. Installing the WAC is a very simple installation process.

1. On the WAC **All connections** screen select **+ Add**.
2. On the Add or create resources blade on the **Servers** box select **Add**.
3. Enter [**LON-SVR6**](urn:gd:lg:a:send-vm-keys) as the server name and wait for the WAC to search and validate the computer name then click **Add**.
4. The **LON-SVR6** machine should now be listed in the All connections window. Select it.
5. To manage **DNS** on **LON-SVR6** you need to install the Windows Admin Center DNS Extension. Click the Settings icon. If prompted to run an update, select **Update now**.
6. On the left hand side select **Extensions** then search for [**DNS**](urn:gd:lg:a:send-vm-keys).
7. Select the DNS (Preview) extension then select **Install**.
8. Return to the All connections screen by clicking **Settings** > **All connections**
9. Switch to [**LON-DC1**](urn:gd:lg:a:select-vm)
10. Send the [**CTRL+ALT+DEL**](urn:gd:lg:a:send-vm-key-combo) command and login on as **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** with the password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys)
11. Open Server Manager by clicking the Start menu and selecting the Server Manager shortcut.
12. In **Server Manager**, select **Tools** from the top menu bar, and then select **DNS**.
13. Maximize the **DNS Manager** console.
14. In the console tree, expand **Forward Lookup Zones**, select and then right-click **Adatum.com**, and then select **Properties**.
15. In **Adatum.com Properties**, select the **Name Servers** tab, and then click the **Add** button.
16. In the **New Name Server Record** window, in the **Server fully qualified domain name (FQDN)** text box, type [**LON-SVR6.adatum.com**](urn:gd:lg:a:send-vm-keys), and then click **Resolve**.
17. Even if you receive a "The server with this IP address is not authoritative for the zone" message, click **OK**.
18. In the **Adatum.com Properties** dialog box, select the **Zone Transfers** tab, and then select the **Allow zone transfers** check box.
19. Select the **Only to servers listed in the Name Servers tab** option, and then click **Notify**.
20. In the **Notify** window, select the **The Following Servers** option, click in the text box, type [**172.16.0.26**](urn:gd:lg:a:send-vm-keys), and then press Enter. After a moment, the address will resolve. Click **OK** twice.

Task 2: Add the Adatum.com zone to LON-SVR6 as a secondary zone.

1. Swich back to [**LON-MGT1**](urn:gd:lg:a:select-vm)
2. Select **LON-SVR6** from the All connections screen.
3. Scroll down and select the **DNS** tool.
4. Click **Install** to install the required PowerShell tools.
5. Once installed the Windows Admin Center will refresh. On the DNS blade select **Actions** > **+ Create a new DNS zone**.
6. For the zone type, select **Secondary**.
7. On the **Zone name** option, enter [**adatum.com**](urn:gd:lg:a:send-vm-keys)
8. In the Master servers section click **+ Add** and enter [**172.16.0.10**](urn:gd:lg:a:send-vm-keys) which is the IP address of LON-DC1 that hosts the primary zone for adatum.com
9. Click **Create**.
10. Select the adatum.com zone and in the records section notice the records have been replicated to LON-SVR6. If you do not see any records, wait a few moments and then click the refresh button.

Task 3: Examine the new zone information on LON-SVR6

1. Return to [**LON-SVR6**](urn:gd:lg:a:select-vm) send the [**CTRL+ALT+DEL**](urn:gd:lg:a:send-vm-key-combo) command and login as **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** with the password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys)
2. In the **Command Prompt** window, type the following, and then press Enter:
3. Dnscmd /enumzones
4. Check the returned information. Note that Adatum.com is listed as a secondary zone.
5. In the **Command Prompt** window, type the following, and then press Enter:
6. Dnscmd LON-DC1 /enumzones
7. Check the returned information from **LON-DC1**. Here the Adatum.com zone is listed as a primary zone.
8. In the **Command Prompt** window, type the following, and then press Enter:
9. Get-DnsClientServerAddress
10. Note the row with the named network adapter **Ethernet** and observe the Interface Index number.
11. In the **Command Prompt** window, type the following statement, replacing *X* with the Interface Index number that you received in step 7, and then press Enter:
12. Set-DnsClientServerAddress -InterfaceIndex X -ServerAddresses ("172.16.0.26", "172.16.0.10")
13. In the **Command Prompt** window, type the following, and then press Enter:
14. Get-DnsClientServerAddress
15. Both addresses should now appear in the **ServerAddresses** column.

**Results**: After completing this exercise, you will have configured the DNS Server settings on **LON-SVR6** remotely.

Exercise 4: Migrating a File Server using the Storage Migration Service

**Scenario**

Having evaluated Windows Server 2022, you have decided to migrate a legacy Widnows Server 2012 R2 file server, LON-FS1, to Windows Server 2022 on LON-FS2 leveraging the Storage Migration Service.

You will use the Windows Admin Center to do this which has been installed on LON-MGT1.

Task 1: Prepare the destination file server.

In this task you will prepare the new destination file server storage in order to migrate files from LON-FS1 (source) to LON-FS2 (desintation).

1. Switch to [**LON-FS2**](urn:gd:lg:a:select-vm), send the [**CTRL+ALT+DEL**](urn:gd:lg:a:send-vm-key-combo) command and login as **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** with the password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys).
2. Select the **Start** menu and in the search bar, search for and select [**Disk Management**](urn:gd:lg:a:send-vm-keys).
3. In the Disk Management console, right click **Disk 1** and select **Online**.
4. In the Disk Management console, right click **Disk 1** and select **Initialize Disk**.
5. On the Initialize Disk pop up window leave the defaults and click **Ok**.
6. In the Disk Management console, right click the **Unallocated** disk area and select **New Simple Volume**.
7. On the **New Simple Volume Wizard** window welcome screen click **Next**.
8. On the Specify Volume Size leave the defaults and click **Next**.
9. On the Assign Drive Letter or Path screen change the drive letter to **F** and click **Next**
10. On the Format Partition screen change file system to **NTFS** and the Volume label to [**Files**](urn:gd:lg:a:send-vm-keys) and click **Next**.
11. Finally click **Finish**.

Task 2: Setup the storage migration service.

Before you can get started, you must install Storage Migration Service and make sure that the necessary firewall ports are open.

1. Switch to [**LON-MGT1**](urn:gd:lg:a:select-vm) and if required send the [**CTRL+ALT+DEL**](urn:gd:lg:a:send-vm-key-combo) command and login as **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** with the password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys).
2. Ensure you are on the All connections screen. If not click the Windows Admin Center title.
3. Select **lon-fs2.adatum.com**.
4. On the Tools menu select **Roles and features**. Under **Features**, select **Storage migration service**, then select **+ Install**.
5. On the Install Roles and Features blade click **Yes**.

Task 3: Create a storage migration job and inventory

In this task, you specify what servers to migrate and then scan them to collect info on their files and configurations.

1. **LON-FS2** should still be selected in the Windows Admin Center. In the navigation pan, select **Storage Migration Service**.
2. Close the pop up blade Migrate storage in three steps.
3. Scroll down on the **Storage Migration Service** blade and select **+ New Job**.
4. In the job name box enter **[MigrationLab](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** then select **OK**
5. On the **Check prerequisites** page, review the prerequisites. Then select **Next**.
6. On the **Enter credentials** page, enter **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** and password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys) and then select **Next**.
7. On the **Install required tools** page, confirm that required tools have installed without error. Then select **Next**.
8. On the **Add and scan devices** page, select **Add a device**.
9. On the **Add source device** page, select the **Active Directory search** radio button and enter [**LON-FS1**](urn:gd:lg:a:send-vm-keys) in the search for box then click **Search**.
10. Select **LON-FS1** in the results and click **Add**.
11. Select **Validate** and ensure that validation passes.

**Note**: If you do not see the validate button you may need to click the elipsis (...) and select Validate.

1. Select **Start scan**. The page updates to shows when the scan is complete.

**Note**: If you do not see the start scan button you may need to click the elipsis (...) and select Start scan.

1. Review the shares, configuration, network adapters, and volumes that were inventoried. Storage Migration Service won't transfer files or folders that could interfere with Windows operation, so you'll see warnings for any shares located in the Windows system folder.
2. Select **Next** to move on to transferring data.

Task 4: Transfer data from your old servers to the destination servers

In this task you will transfer data after specifying where to mirgate to it on the destination server LON-FS2.

1. On the **Transfer data** > **Enter credentials** page, enter **[Adatum\AdatumAdmin](urn:gd:lg:a:send-vm-keys" \o "Paste text into VM)** and password [**Pa55w.rd**](urn:gd:lg:a:send-vm-keys) and then select **Next**.
2. On the **Specify the destination for: lon-fs1...**, ensure **Use an existing server or VM** is selected, select **Browse** and enter [**LON-FS2**](urn:gd:lg:a:send-vm-keys) then click **Search**.

If you can not see the **Browse** or **Scan** button. Please zoom out your browser.

1. Select **LON-FS2** then click **Add**.
2. Select **Scan**.
3. Once the scan is complete click **Next**.
4. On the **Adjust transfer settings** page, specify whether to migrate local users and groups on the source servers and then select **Next**. This lets you recreate any local users and groups on the destination servers so that file or share permissions set to local users and groups aren't lost. Click **Next**.
5. Click **Next** on the **Install required features** page.
6. On the **Validate devices** Select **Validate** and then select **Next**.
7. Select **Start transfer** to start transferring data.

We have noticed in lab testing that if you do not see the **Start transfer** option it means that the extension needs updating. You should see the **Update now** option at the top of the screen, or you can navigate to **Settings > Extensions** and search for **Storage Migration Service** and select to update it. After this you can return to your transfer to begin it.

The first time you transfer, we'll move any existing files in a destination to a backup folder. On subsequent transfers, by default we'll refresh the destination without backing it up first.  
Also, Storage Migration Service is smart enough to deal with overlapping shares—we won't copy the same folders twice in the same job.

1. After the transfer completes click **Next**.

Task 5: Cut over to the new servers

In this task you cut over from the source server to the destination server, moving the IP addresses and computer names to the destination servers. After this step is finished, apps and users access the new servers via the names and addresses of the servers you migrated from.

1. On the **Cut over to the new servers** > **Enter credentials** page, select **Next** to use the credentials you typed previously.
2. On the **Configure cutover** page, specify which network adapter on the destination should take over the settings from each adapter on the source. This moves the IP address from the source to the destination as part of the cutover, giving the source server a new DHCP or static IP address. Select **Use DHCP** and select **Ethernet** as the **Destination network adapter** then click Next.
3. On the **Adjust cutover settings** page, review the options and select **Next**.
4. Select **Validate** on the **Validate source and destination device** page, and then select **Next**.
5. On the **Cut over to the new servers** page select **Start cutover**.

Users and apps might experience an interruption while the address and names are moved and the servers restarted several times each, but will otherwise be unaffected by the migration. How long cutover takes depends on how quickly the servers restart, as well as Active Directory and DNS replication times.

**Results**: After completing this exercise, you will have sucessfully migrated a file server using the Storage Migration Service.