

Microsoft Windows Server 2019 for Dell EMC PowerEdge Servers

Installation Guide

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Introduction

This document provides instructions to install Microsoft Windows Server 2019 operating system for Datacenter, Standard, and the Essentials edition.

i **NOTE:** Unlike previous versions of Windows Server, Microsoft Windows Server 2019 does not support the conversion from Windows Server Core to Server with Desktop Experience and vice versa. For more information, see [Installation options for Windows Server 2019](#).

Set up preinstalled Microsoft Windows Server 2019 operating system

This section provides instructions for completing the setup of the Microsoft Windows Server 2019 Operating System (OS) that is preinstalled on your system.

NOTE: Before you begin, see the documentation that is shipped with the operating system for important product information. For more information about completing the installation, see the documentation included with your software.

NOTE: Before using your system, read the software license agreements that are included with each product that you have ordered.

To set up Windows Server 2019 OS for Datacenter, Standard, and the Essentials edition:

1. Connect the keyboard, monitor, mouse, network cable, power cable, and other required peripherals to your system.
2. Turn on your system.
3. Select the language in which you want to configure the preinstalled OS, and then click **Next**.
4. Select country or region, app language, keyboard layout, and then click **Next**.

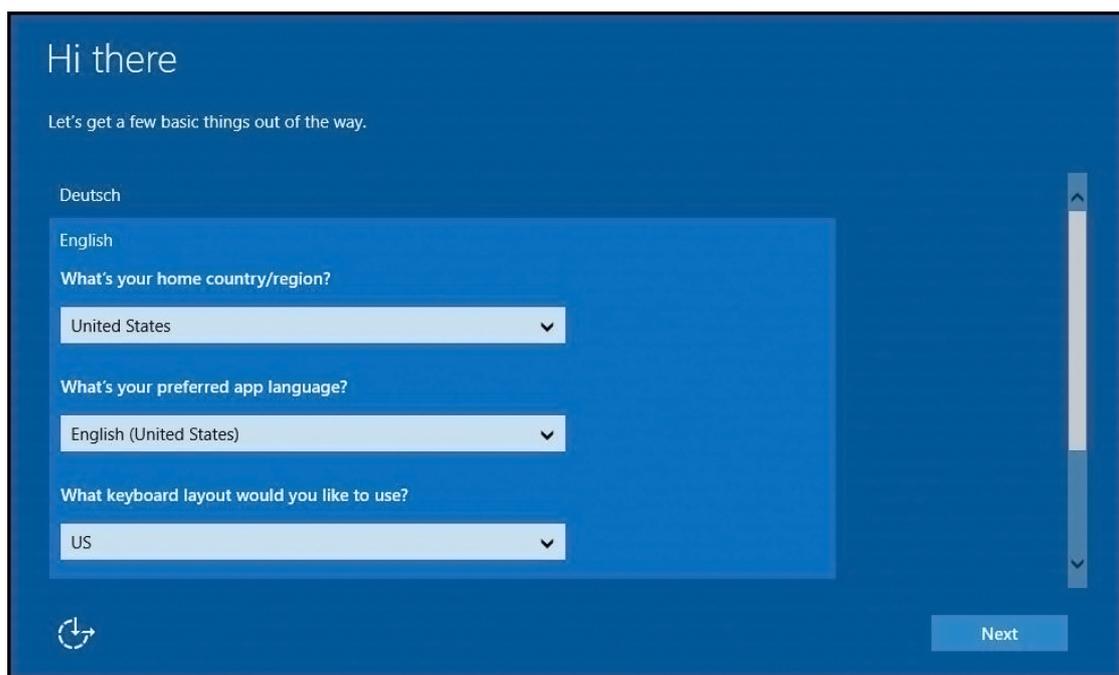


Figure 1. Select country or region, app language, and keyboard layout

5. Read the license terms, and then click **Accept** if you agree to the license terms.

NOTE: If you do not accept the license agreement, you cannot proceed with OS installation.

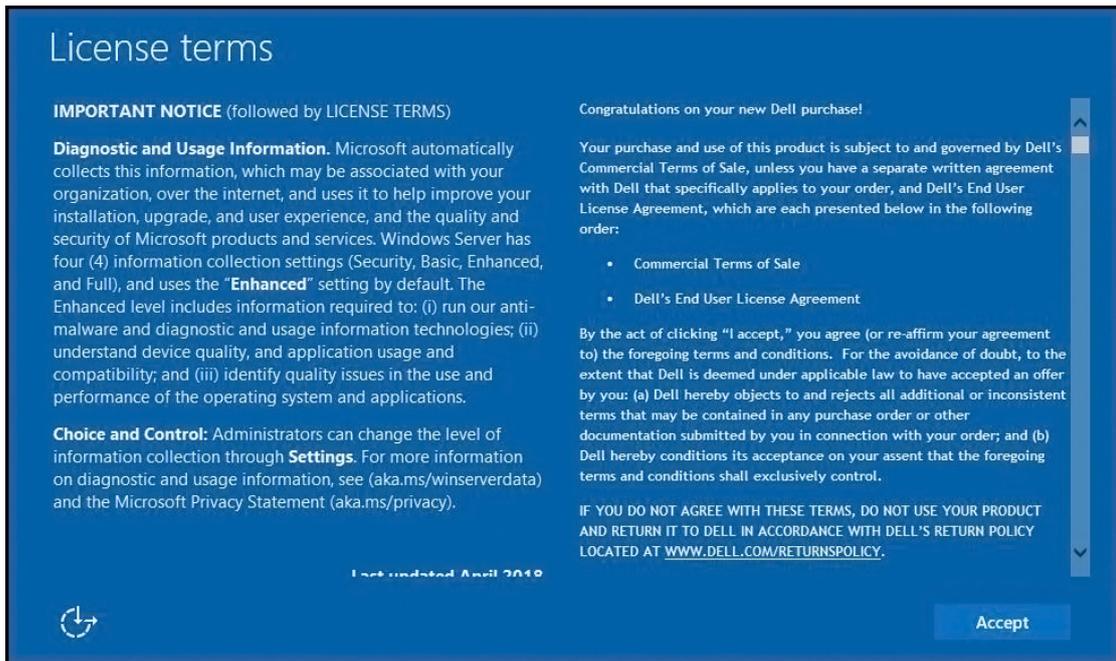


Figure 2. License terms

6. Enter administrator password, reenter to confirm the password, and then click **Finish**.

NOTE: The password must conform to the password complexity rules. For more information about password complexity rules, see [Password Policy](#).

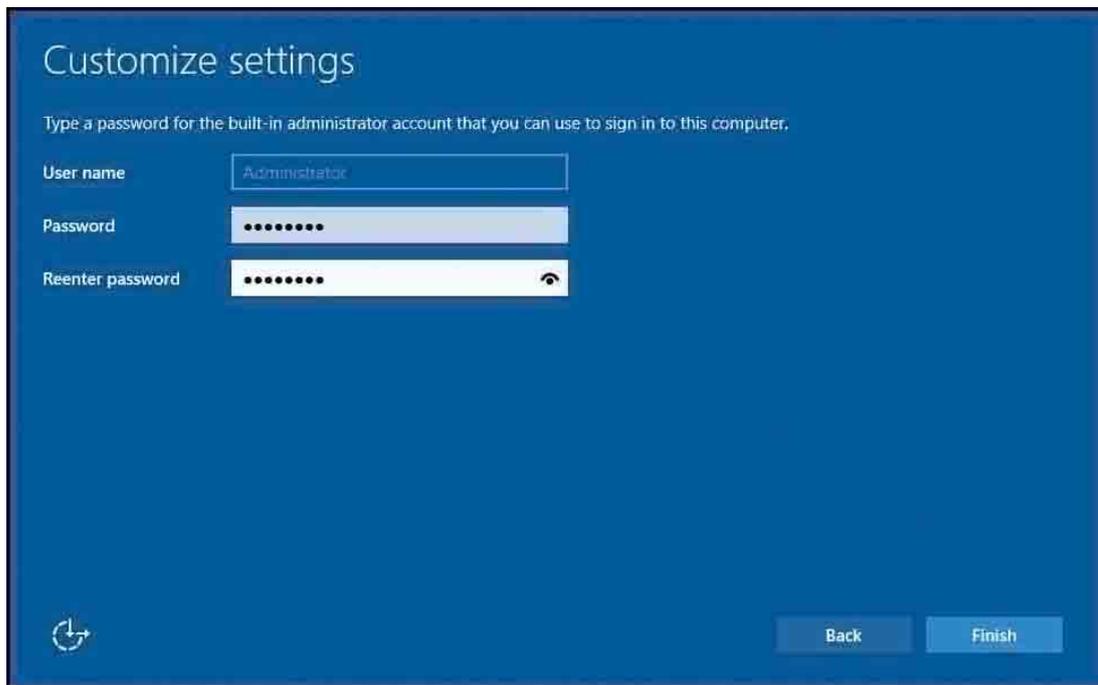


Figure 3. Customize settings

7. In the **Select OS Partition Size** window, move the slider to set an appropriate OS partition size, and then click **Ok**.
The minimum partition size recommended:
 - 40 GB—for primary partitions
 - 60 GB—for the Essentials edition

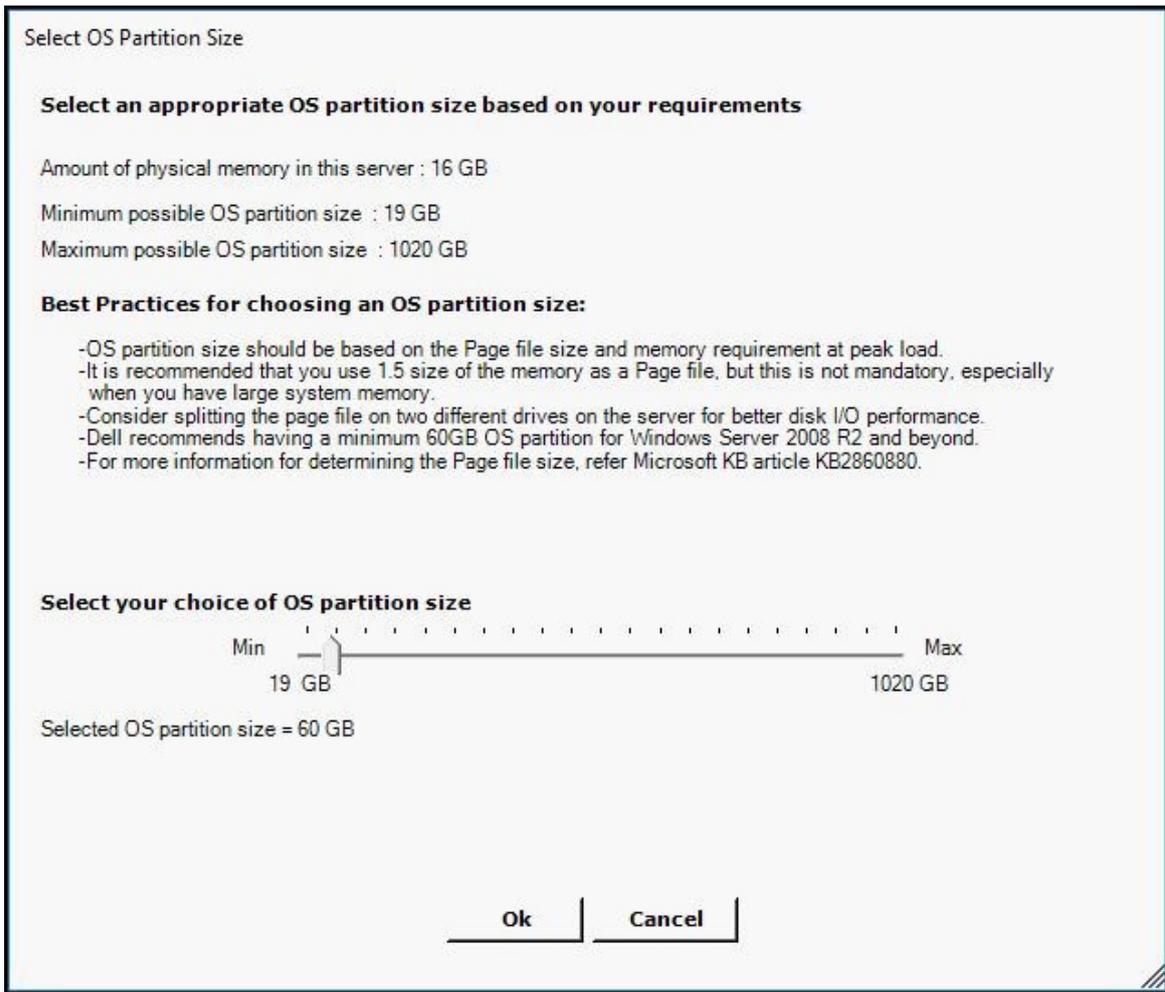


Figure 4. OS partition size

- Log in to the system after it reboots.
- Type the administrator password, and then press Enter.
 A message is displayed with information about the value added services that are provided with your system.

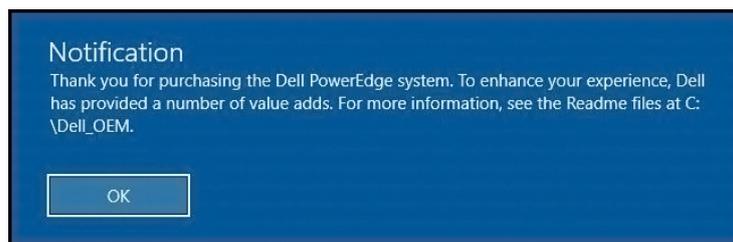


Figure 5. Notification message

NOTE: Windows Server 2019 Essentials do not include the Essentials Experience role. Windows Server 2019 Essentials can be configured as a domain controller by installing the Active Directory Domain Services role from the Server Manager. See [Get Started with Windows Server 2019](#).

The preinstalled OS is successfully configured.

NOTE: After you log in to the system, you can use the **Server Manager Dashboard** to configure and manage different roles and features in the OS.

Installing or reinstalling Microsoft Windows Server 2019

Use one of the following methods to install the Microsoft Windows Server 2019 OS:

- Install Windows Server 2019 by using Dell EMC Lifecycle Controller
- Install Windows Server 2019 by using operating system media

i **NOTE:** For information about using the Virtual Media function on iDRAC, see [Using the Virtual Media function on iDRAC 6, 7, 8 and 9](#).

Topics:

- [Install Windows Server 2019 by using Dell EMC Lifecycle Controller](#)
- [Install Windows Server 2019 by using operating system media](#)

Install Windows Server 2019 by using Dell EMC Lifecycle Controller

To install Windows Server 2019 for Standard, Datacenter, and the Essentials edition by using the Lifecycle Controller:

i **NOTE:** Ensure that you have the Windows Server 2019 operating system media handy.

i **NOTE:** Installation of Windows Server 2019 by using Dell EMC Lifecycle Controller is supported on the yx3x* PowerEdge servers and later.

*Dell PowerEdge M630 and Dell PowerEdge FC630 do not support the operating system installation using Dell EMC Lifecycle Controller.

1. Connect the keyboard, monitor, mouse, and other required peripherals to your system.
2. Turn on the system and the connected peripherals.
3. When the Dell EMC logo is displayed, press F10, and then select **Entering Lifecycle Controller**.

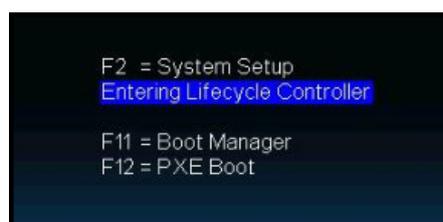


Figure 6. Entering Lifecycle Controller

4. Press **Enter**.
5. On the **Lifecycle Controller** page, click **OS Deployment**.
6. On the **OS Deployment** page, click **Deploy OS**.



Figure 7. OS Deployment

The **Select Deployment path** page is displayed, which contains the following options:

- **Configure RAID First** — Click to configure a RAID connected to the server.
- **Go Directly to OS Deployment** — Click to launch the operating system deployment wizard and start installing an operating system.

NOTE: Configuring RAID is optional if an already-connected virtual disk is present.

7. Select **Go Directly to OS Deployment**.



Figure 8. Select Deployment path

If RAID is not yet configured, select **Configure RAID First**, and configure the RAID.

8. Click **Next**.
The **Select an Operating System** page is displayed with a list of compatible operating systems.
9. From the **Available Operating Systems** list, select Microsoft Windows Server 2019, and then click **Next**.

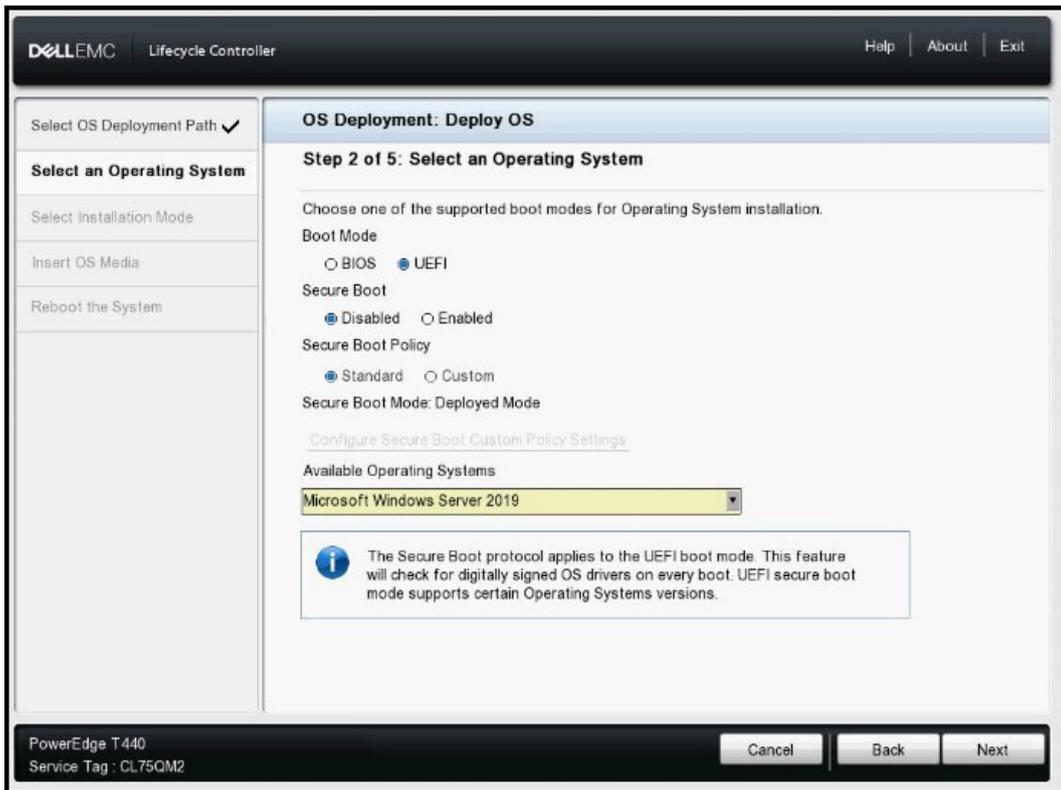


Figure 9. Select an Operating System

NOTE: If you select **Any Other Operating System** option, ensure that you have prepared the necessary drivers for your system. See www.dell.com/support for more information about operating system installation images and drivers for these operating systems.

10. Select whether you want to deploy the operating system in UEFI or BIOS mode, and then click **Next**.
11. On the **Select Installation Mode** page, select **Manual Install**, and then click **Next**.
12. Insert the Windows Server 2019 media, and then click **Next**.



Figure 10. Insert OS Media

13. A summary of applied settings is displayed on the **Reboot the System** page. Click **Finish** to begin installation.



Figure 11. Reboot the System

If a Windows operating system is already installed on your system, the following message is displayed:

Press any key to boot from CD or DVD

14. After the files are loaded, select the language in which you want to install the operating system.



Figure 12. Select language

15. Select the language, time and currency format, keyboard or input method, and then click **Next**.



Figure 13. Select the language, time and currency format, and keyboard or input method

16. Click **Install now**.



Figure 14. Windows Setup

17. Select the required operating system, and then click **Next**.

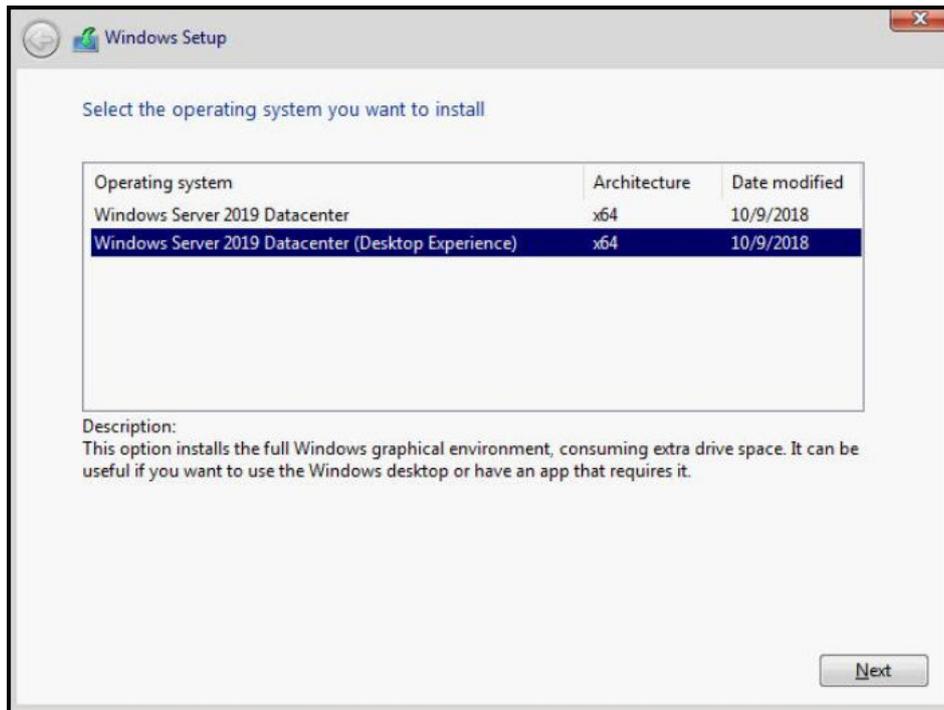


Figure 15. Select the operating system you want to install

18. Read the license agreement information. Select the **I accept the license terms** check box, if you agree to the license terms, and then click **Next**.

NOTE: If you do not accept the license agreement, you cannot proceed with operating system installation.

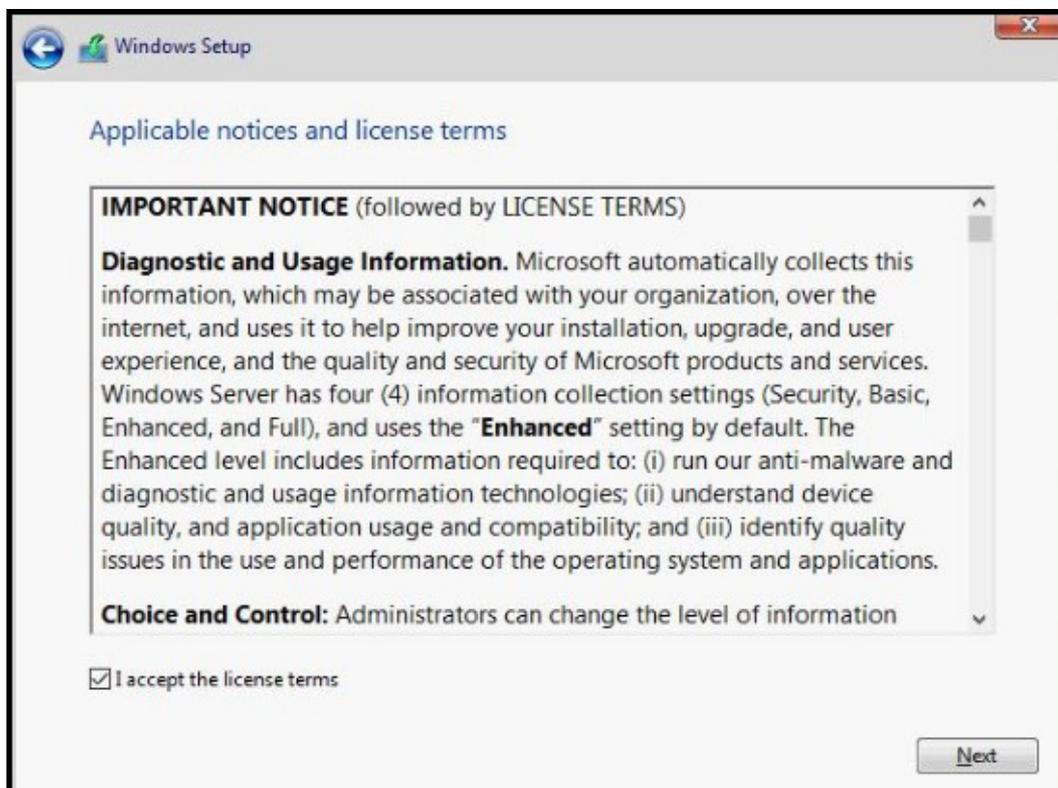


Figure 16. Applicable notices and license terms

19. In the **Which type of installation do you want?** window, select **Custom: Install Windows only (advanced)**.

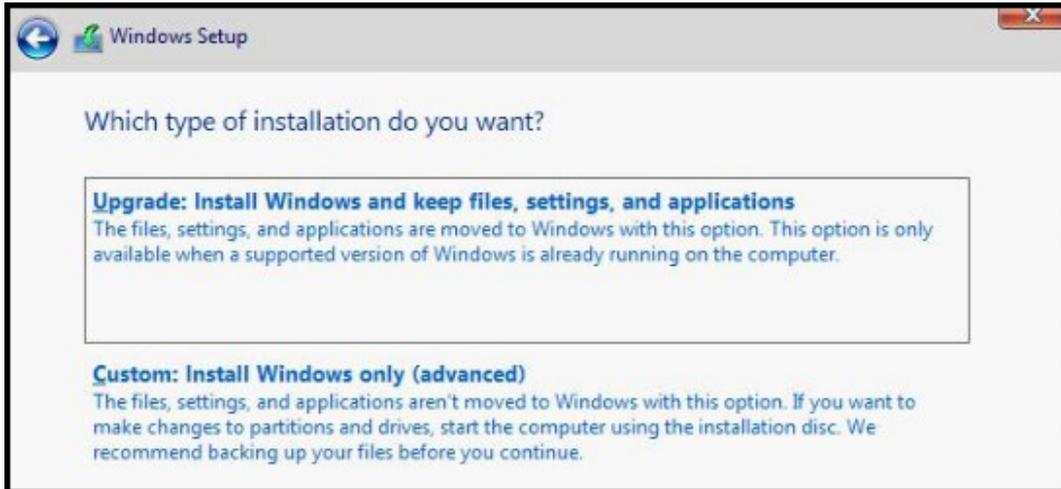


Figure 17. Which type of installation do you want

20. In the **Where do you want to install Windows?** window, select the unallocated space on which you want to install the operating system. To create a partition:

a. Click **New**.

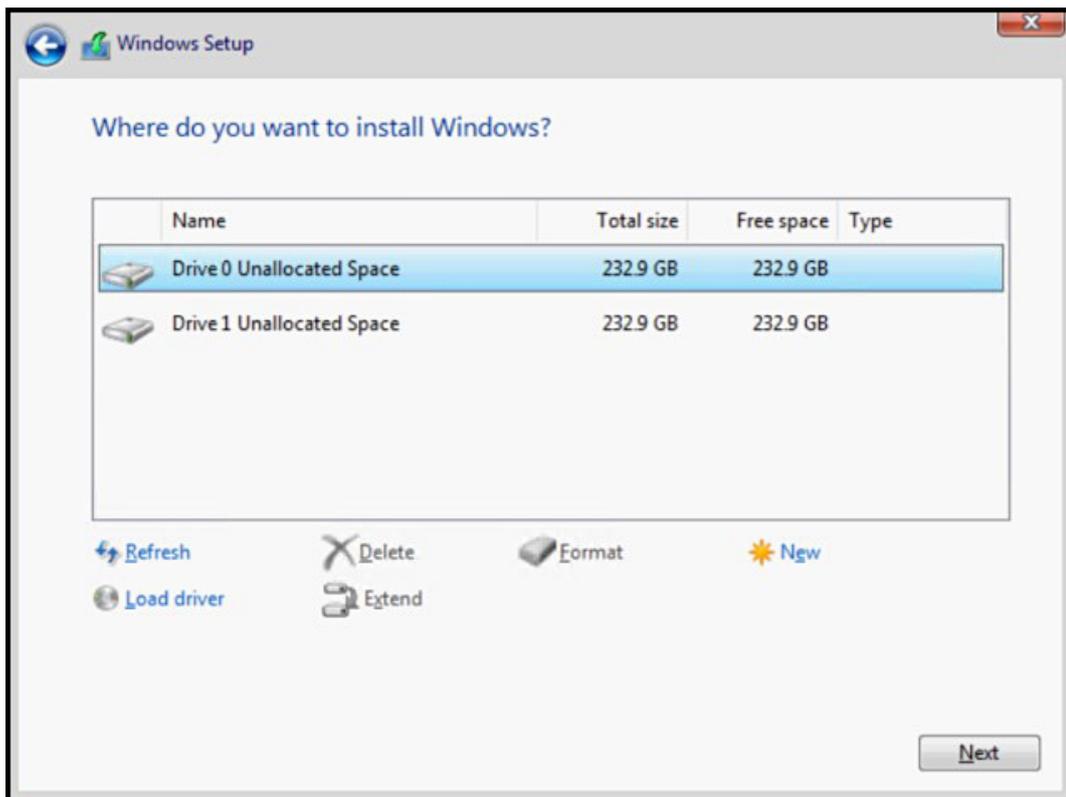


Figure 18. Select the unallocated space

b. In the **Size** box, enter or select the size of the partition in MB, and then click **Apply**.

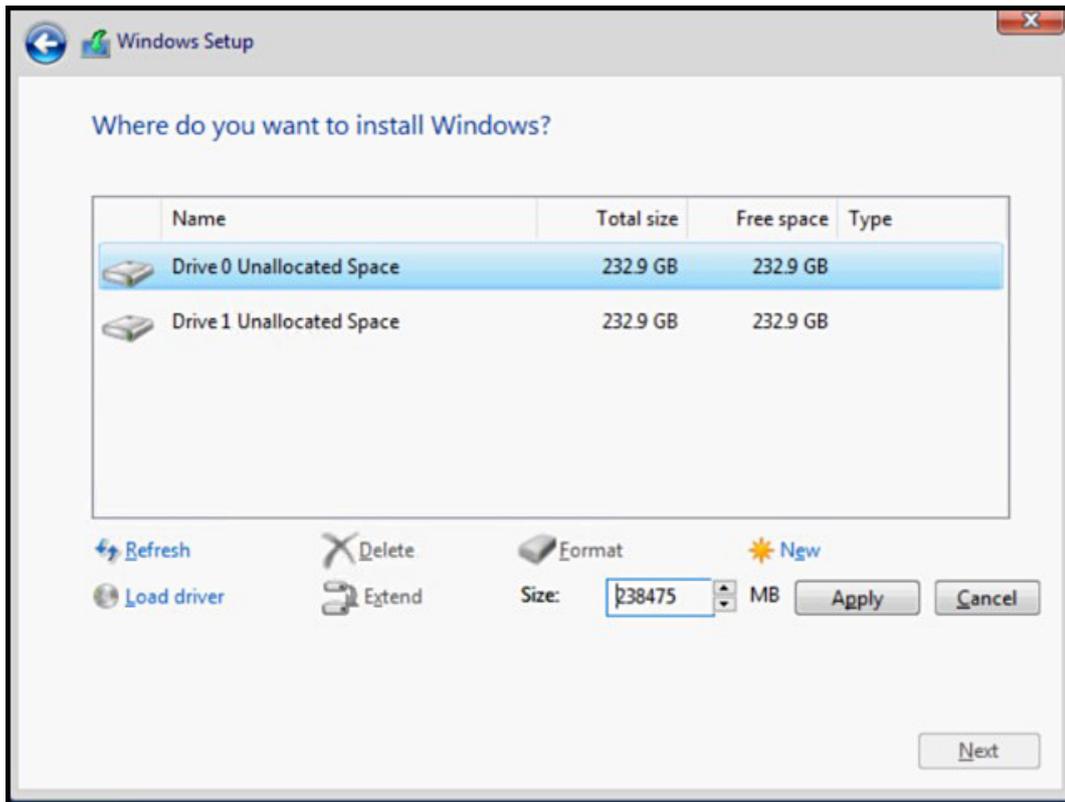


Figure 19. Enter or select the size of the partition

The following message is displayed:

To ensure that all Windows features work correctly, Windows might create additional partition for system files

c. Click **OK**.

NOTE: The recommended minimum partition size for the primary partition is 40 GB and for the Essentials Edition is 60 GB. If you are installing additional memory module on your system, you may require extra primary partition space to accommodate the page file and hibernation file. During installation, a recommended partition size is displayed on the screen based on the memory size of your system. Follow the instructions on the screen. If you select **Core installation**, you require less disk space for the primary partition.

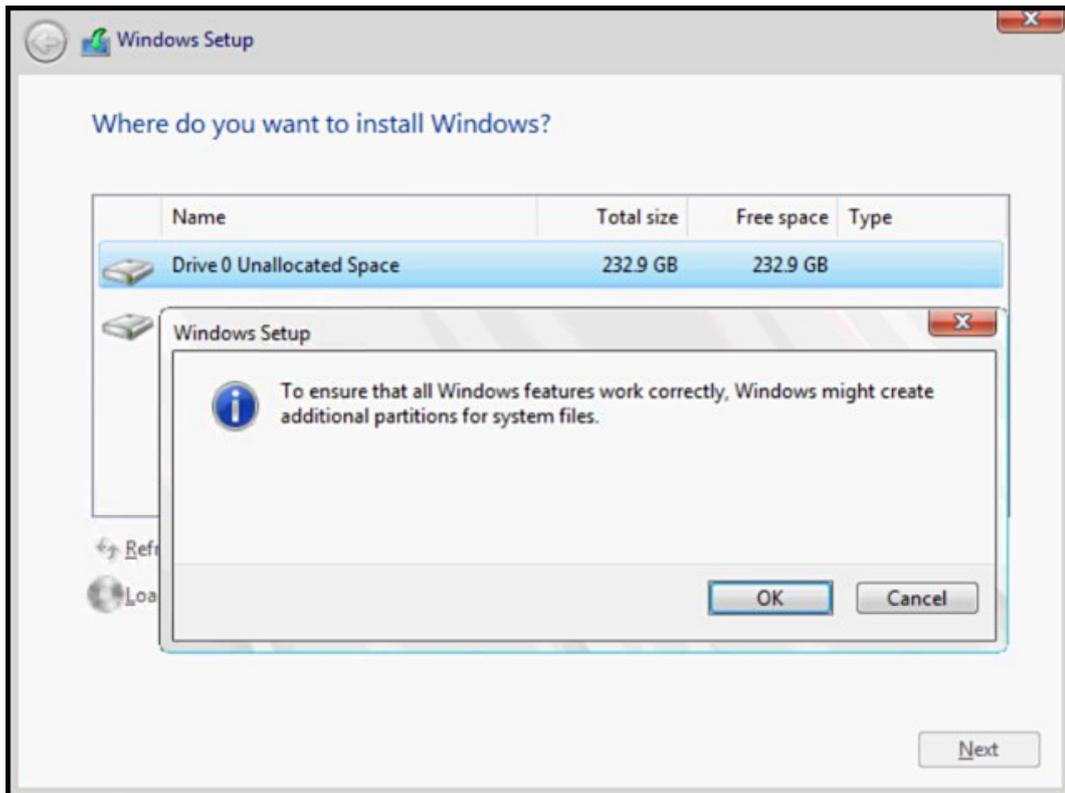


Figure 20. Windows might create additional partitions for system files

21. Select the newly created operating system partition, and then click **Next**.

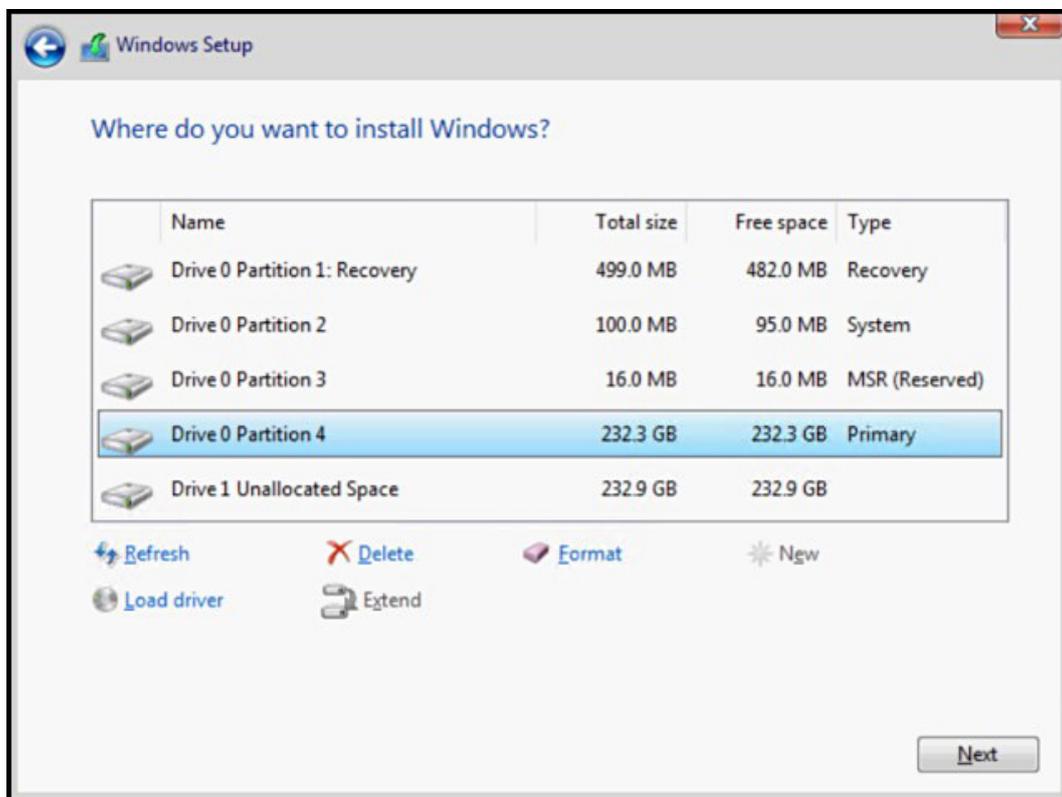


Figure 21. Enter or select the size of the partition

The system reboots after the operating system is installed.

22. Enter administrator password, reenter to confirm the password, and then click **Finish**.

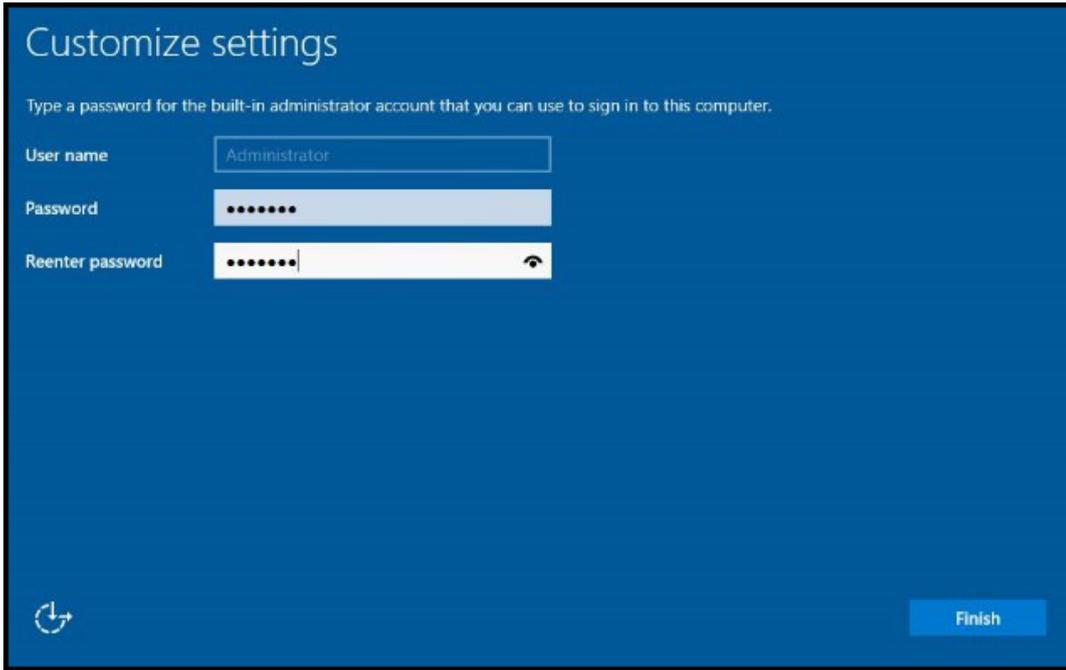


Figure 22. Customize settings

23. After the system reboots, press Ctrl+Alt+Delete to log in to the system.

24. Type the administrator password, and then press Enter.

NOTE: Windows Server 2019 Essentials do not include the Essentials Experience role. Windows Server 2019 Essentials can be configured as a domain controller by installing the Active Directory domain services role from Server Manager. For more information, see [Get Started with Windows Server 2019](#).

The operating system is successfully installed.

It is recommended that you install the latest hotfixes and security updates from Microsoft after installing Windows Server 2019. You can install these hotfixes and security updates by downloading them or by using the Windows updates available for your system.

Dell Technologies recommends that you install hotfixes and security update, 1D, or newer from Microsoft on your system by using Windows update, or by downloading the latest updates after installing the operating system.

Install Windows Server 2019 by using operating system media

NOTE: Ensure that you have the Microsoft Windows Server 2019 operating system media handy.

NOTE: Microsoft Windows Server 2019 installation by using operating system media is supported in BIOS and UEFI modes.

1. Connect a keyboard, monitor, mouse, and other required peripherals to your system.
2. Turn on your system and the connected peripherals.
3. Press F2 to go to the **System Setup** page.

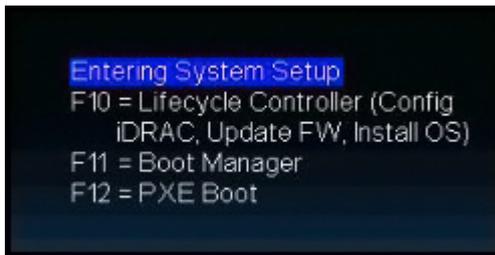


Figure 23. System Setup

- On the **System Setup** page, click **System BIOS**, and then click **Boot Settings**.



Figure 24. System Setup Main Menu

- Ensure that **UEFI** is selected as the Boot Mode.

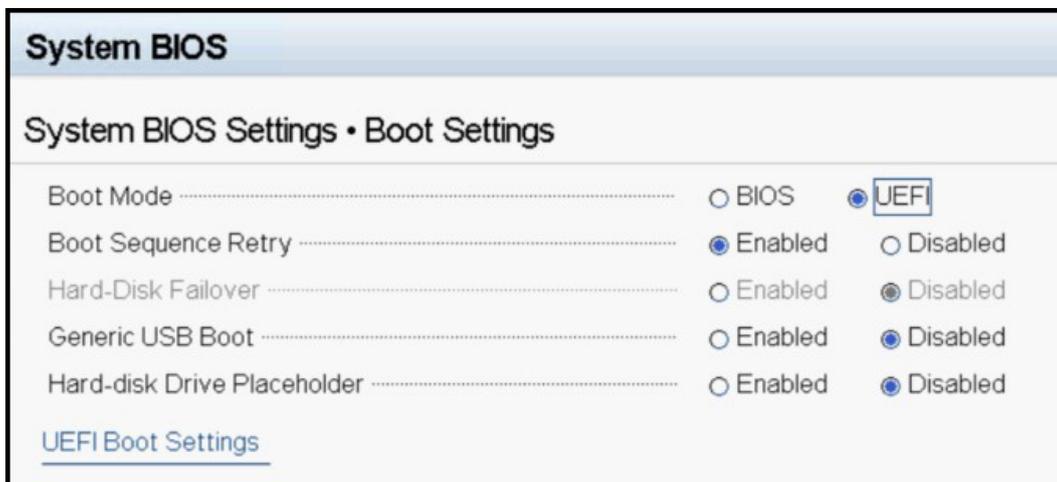


Figure 25. Boot Settings

NOTE: For yx4x PowerEdge servers and later, UEFI is the default boot mode.

NOTE: The PowerEdge servers are represented using the generic naming convention. To identify the range of server models, see [Identifying the series of your PowerEdge servers](#).

- Click **UEFI Boot Settings**, and then click **UEFI Boot Sequence**.



Figure 26. System BIOS

- In the **Change Order** window, ensure that **Virtual Optical Drive: Virtual CD** is selected as your boot device, and then click **OK**.

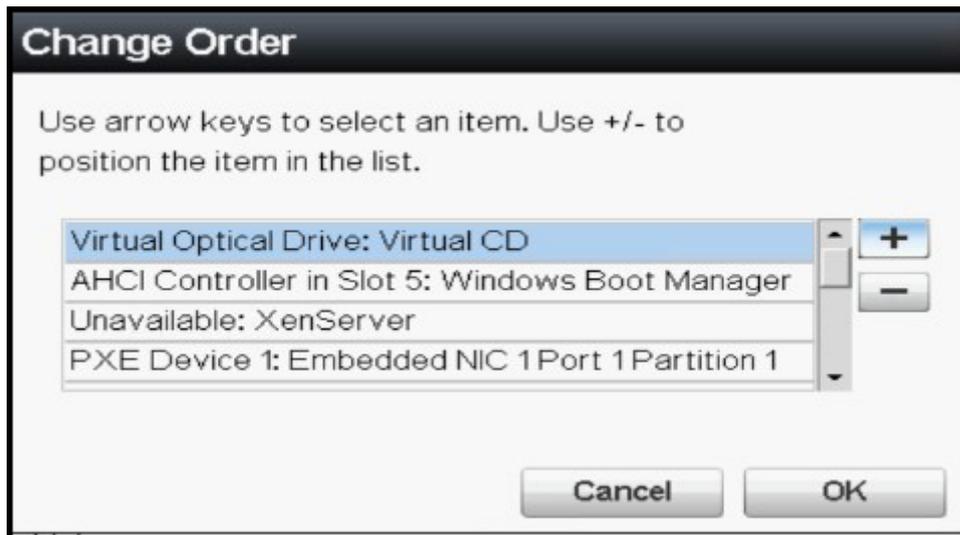


Figure 27. Change Order

- Click **Back**.
- Click **Finish**, and then click **Yes**.
The updates are saved.
- Click **Finish** to exit the **System Setup** page, and then click **Yes** to reboot the system.
- Insert the Microsoft Windows Server 2019 media into the DVD drive.
When the system starts to read the media, the following message is displayed:

Loading files

NOTE: If a Windows operating system is already installed on your system, the following message is displayed:

Press any key to boot from the CD/DVD

- After the files are loaded, select the language in which you want to install the OS.



Figure 28. Select language

13. Select the language, time and currency format, keyboard or input method, and then click **Next**.

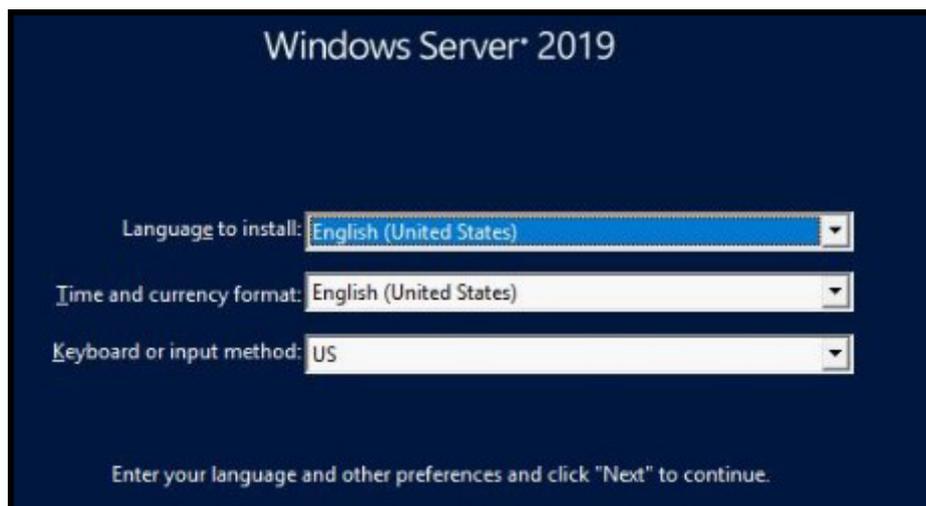


Figure 29. Select language, time and currency format, and keyboard or input method

14. Click **Install now**.



Figure 30. Windows Setup

15. Select the required OS, and then click **Next**.

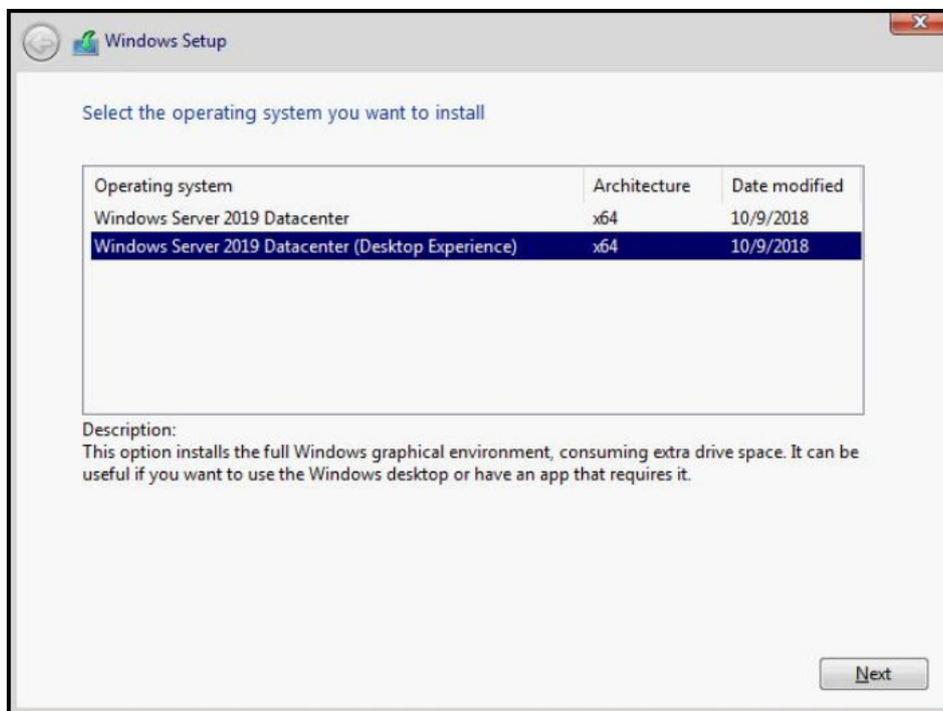


Figure 31. Select the operating system you want to install

16. Read the license agreement information. Select the **I accept the license terms** check box if you agree to the license terms, and then click **Next**.

NOTE: If you do not accept the license agreement, you cannot proceed with OS installation.

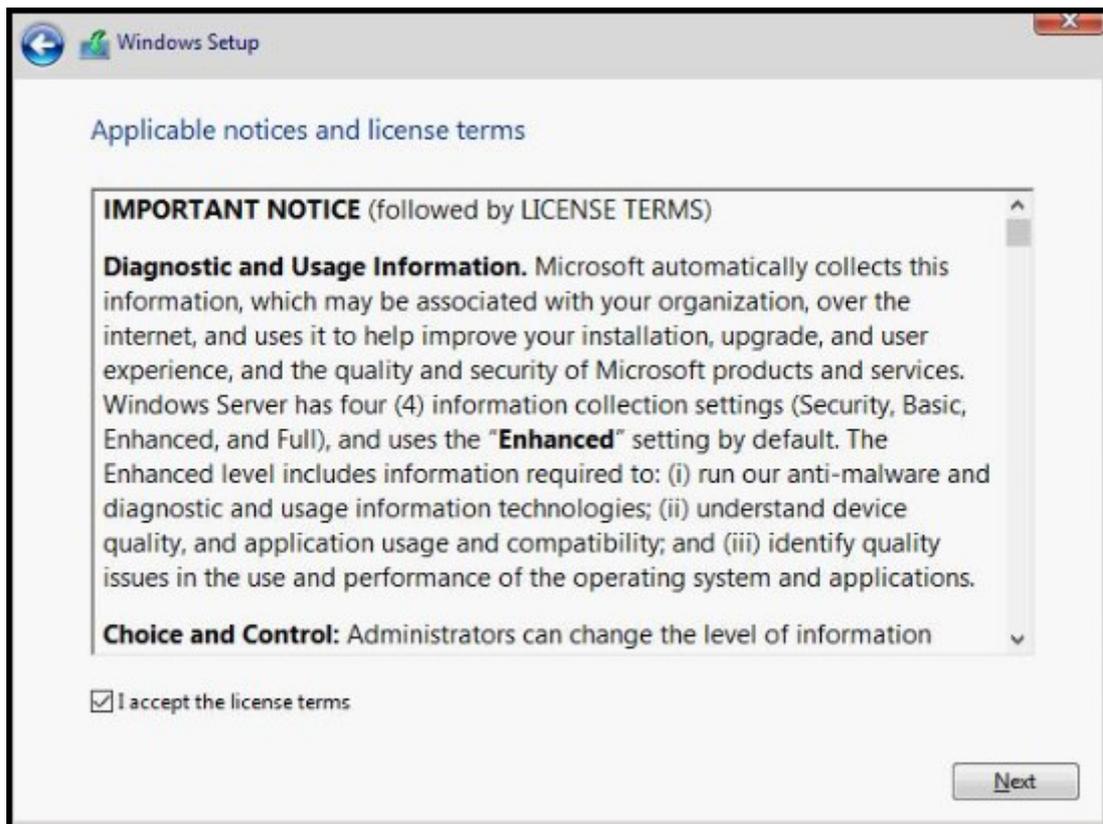


Figure 32. Applicable notices and license terms

17. In the **Which type of installation do you want?** window, select **Custom: Install Windows only (advanced)**.

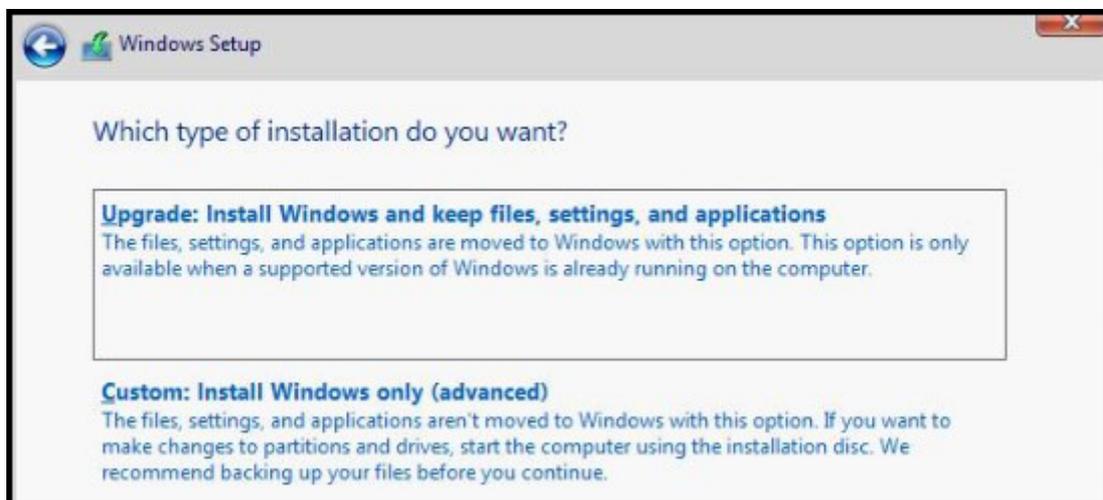


Figure 33. Types of installation

18. In the **Where do you want to install Windows?** window, select the unallocated space where you want to install the OS. To create a partition:
- a. Click **New**.

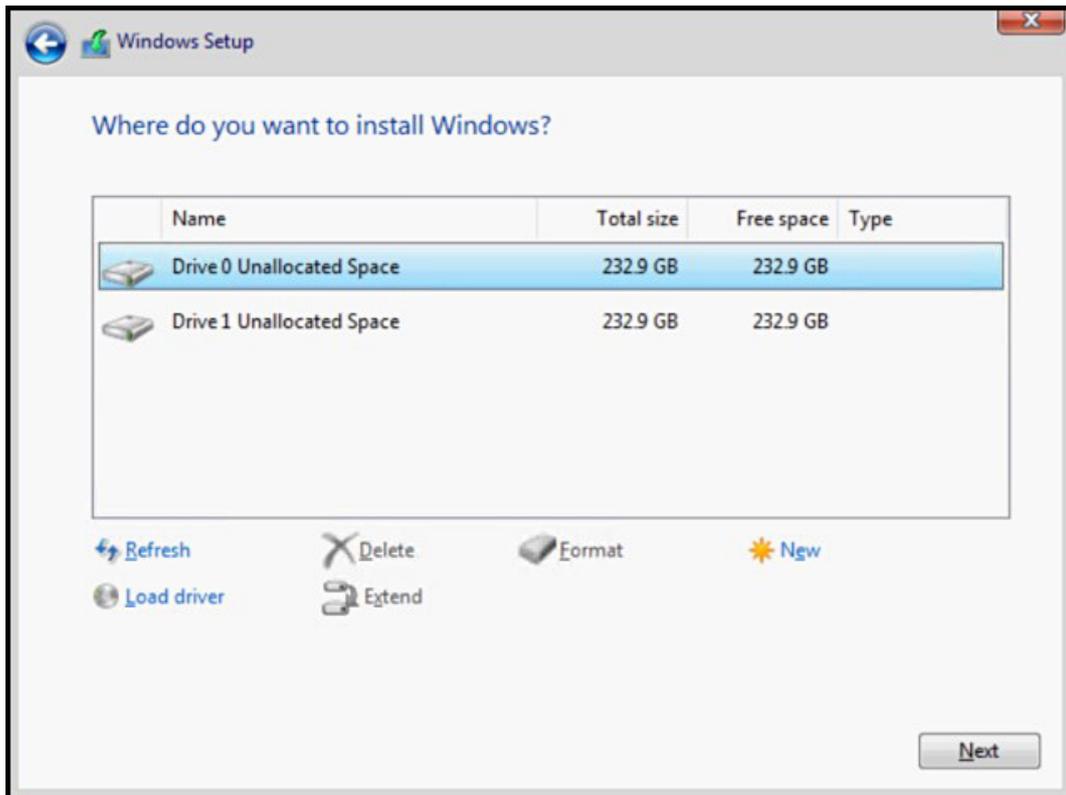


Figure 34. Select the location to install

- b. In the **Size** box, enter or select the size of the partition in MB, and then click **Apply**.

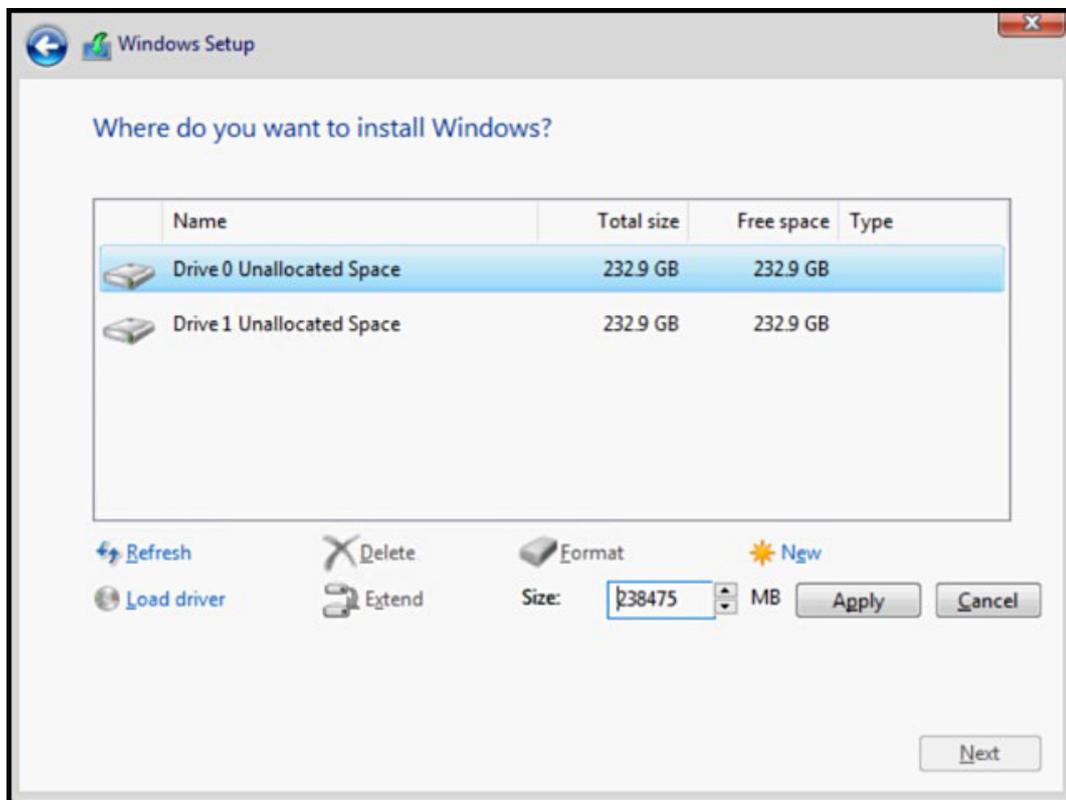


Figure 35. Select the size of the partition

The following message is displayed:

To ensure that all Windows features work correctly, Windows might create additional partition for system files

c. Click **OK**.

NOTE: The recommended minimum partition size of the primary partition for Standard and Datacenter Edition is 40 GB and for the Essentials Edition is 60 GB. If you are installing additional memory module on your system, you may require extra primary partition space to accommodate the page file and the hibernation file. During installation, a recommended partition size is displayed on the screen based on the memory size of your system. Follow the instructions on the screen. If you select **Core installation**, you may require less disk space for the primary partition. For information about drive partitioning, see [Drive partitioning](#).

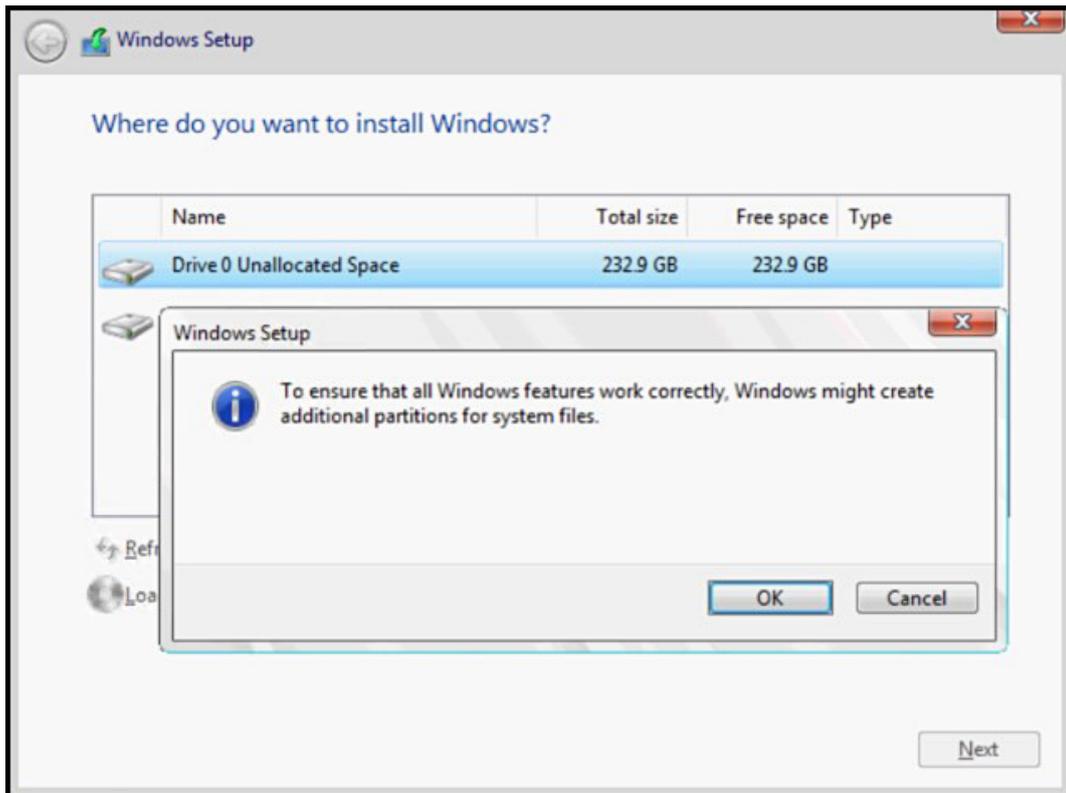


Figure 36. Windows might create additional partitions for system files

19. Select the newly created operating system partition, and then click **Next**.

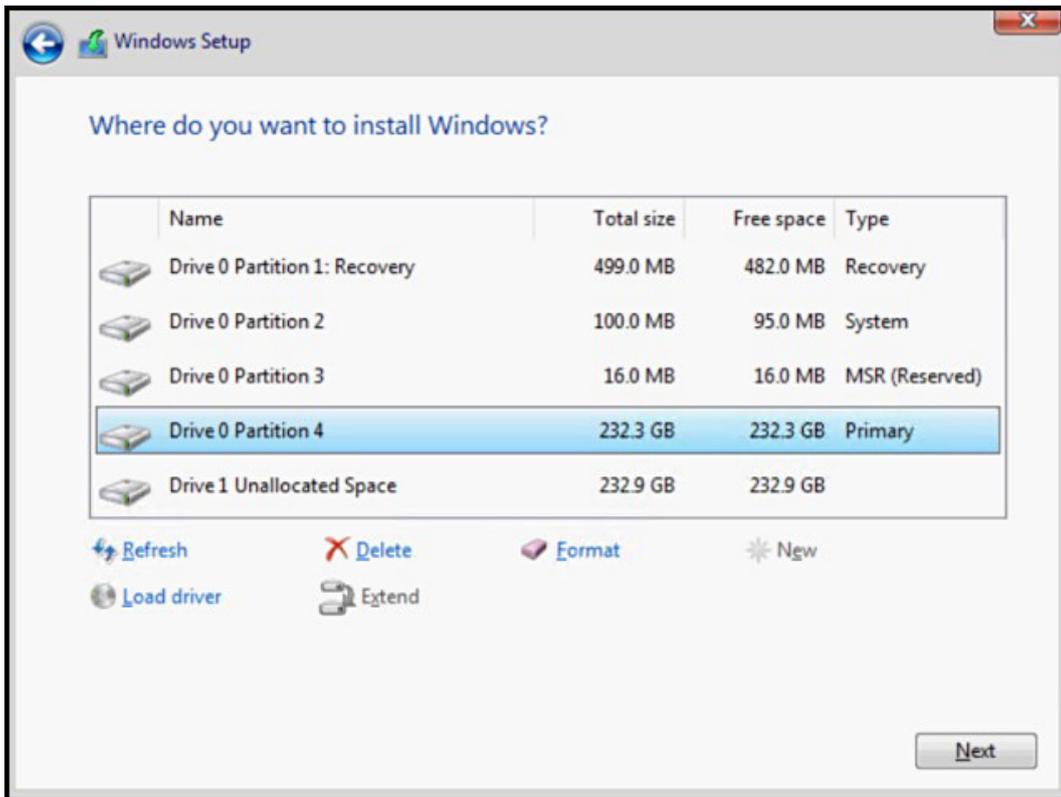


Figure 37. Select the newly created operating system partition

The system reboots after the operating system is installed.

20. Enter administrator password, and reenter to confirm the password, and then click **Finish**.

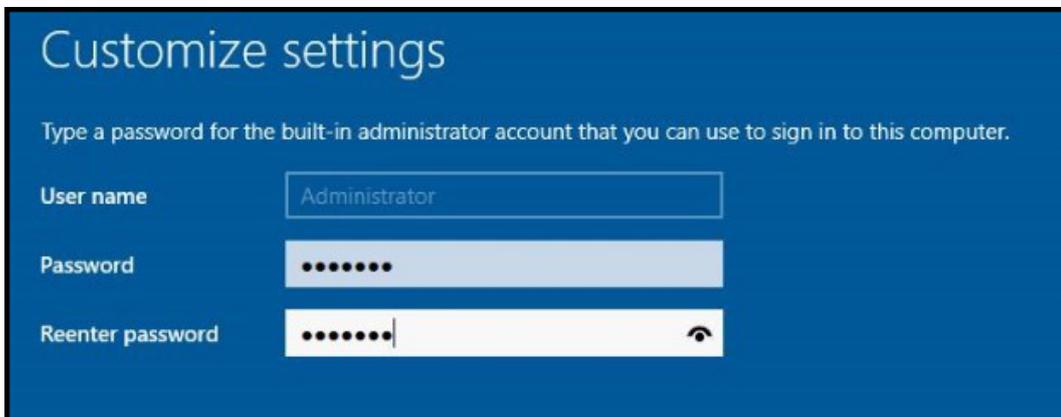


Figure 38. Customize settings

21. After the system reboots, press Ctrl+Alt+Delete to log in to the system.
22. Type the administrator password, and then press Enter.

NOTE: Windows Server 2019 Essentials do not include the Essentials Experience role. Windows Server 2019 Essentials can be configured as a domain controller by installing the Active Directory Domain Services role from **Server Manager**. See [Get Started with Windows Server 2019](#).

The OS is successfully installed.

NOTE: After you log in to the system, you can use the **Server Manager Dashboard** to configure and manage different roles and features in the OS.

It is recommended that you install the latest hotfixes and security updates from Microsoft after installing Microsoft Windows Server 2019. You can install these hotfixes and security updates by downloading them or by using the Windows updates available for your system.

Dell EMC recommends that you install hotfixes and security update "1D" or newer from Microsoft on your system by using Windows update, or by downloading the latest updates after installing the operating system.

Drive partitioning

Drive partitioning enables you to divide a hard drive disk space into multiple Virtual Drives (VDs). Each VD is called a partition. There are two types of partition schemes:

- Master Boot Record scheme
- GUID Partition Table scheme

The main considerations for selecting between the partition schemes are:

- Hard drive disk space
- Operating system version
- Software installed or to be installed in the operating system

Topics:

- [Master boot record scheme](#)
- [GUID partition table scheme](#)

Master boot record scheme

Most of the operating systems use the Master Boot Record (MBR) legacy partition scheme. The total data storage space of a computer hard drive is divided into a maximum of four primary partitions.

The MBR partition scheme is used across older versions of the Microsoft operating systems. MBR partitioning scheme supports a volume size lesser than 2 TB.

For more information about partitions and volumes, see the Partitions and Volumes section at www.technet.microsoft.com.

GUID partition table scheme

GUID Partition Table (GPT) scheme is a new standard for the layout of the partition table on a hard drive. It is part of the extensible firmware interface (EFI) standard, which is a replacement for the system BIOS.

NOTE: It is recommended that you use the GPT partition scheme as it is more flexible, supports larger hard drive sizes, and has some features and recovery mechanisms that are not available in the MBR partition scheme.

For more information about partitions and volumes, see the Partitions and Volumes section at www.technet.microsoft.com. For information about GPT, see the Windows and GPT FAQ section at www.microsoft.com.

Resources and support

Topics:

- Operating system support matrix for Dell EMC PowerEdge servers
- Documentation and video resources
- Identifying the series of your PowerEdge servers
- Download drivers and firmware

Operating system support matrix for Dell EMC PowerEdge servers

Windows Server operating system can be installed only on selected Dell EMC PowerEdge servers. For the list of Dell EMC PowerEdge servers and supported operating systems, see Microsoft Server operating systems supported on specific PowerEdge models at [Dell.com/ossupport](https://www.dell.com/ossupport).

Documentation and video resources

Table 1. Additional documentation and video resources for your server

Task	Description	Location
Setting up your server	For information about installing the server into a rack, see the Rack documentation included with your rack solution or the <i>Getting Started</i> document that is shipped with your server.	https://www.dell.com/poweredgemanuals
	For information about turning on the server and the technical specifications of your server, see the <i>Getting Started</i> document that is shipped with your server.	https://www.dell.com/poweredgemanuals
Configuring your server	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your server remotely, see the <i>Integrated Dell Remote Access Controller User's Guide</i> .	https://www.dell.com/idracmanuals
	For information about installing the operating system, see the operating system documentation.	https://www.dell.com/operatingsystemmanuals
	For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the <i>RACADM Command Line Reference Guide for iDRAC</i> .	https://www.dell.com/idracmanuals

Table 1. Additional documentation and video resources for your server (continued)

Task	Description	Location
	For information about updating drivers and firmware, see the "Download drivers and firmware" section in this document.	www.dell.com/support/drivers
Managing your server	For information about server management software offered by Dell, see the <i>Dell EMC OpenManage Systems Management Overview Guide</i> .	https://www.dell.com/openmanagemanuals
	For information about setting up, using, and troubleshooting OpenManage, see the <i>Dell EMC OpenManage Server Administrator User's Guide</i> .	https://www.dell.com/openmanagemanuals
	For information about installing, using, and troubleshooting Dell EMC OpenManage Essentials, see the <i>Dell EMC OpenManage Essentials User's Guide</i> .	https://www.dell.com/openmanagemanuals
	For information about installing and using Dell EMC System E-Support Tool (DSET), see the <i>Dell EMC System E-Support Tool (DSET) User's Guide</i> .	https://www.dell.com/supportassist
	For understanding the features of Dell EMC Lifecycle Controller (LCC), see the <i>Dell EMC Lifecycle Controller User's Guide</i> .	https://www.dell.com/idracmanuals
	For information about partner programs enterprise systems management, see the <i>OpenManage Connections Enterprise Systems Management</i> documents	https://www.dell.com/OMConnectionsEnterpriseSystemsManagement
	For information about connections and client systems management, see the <i>OpenManage Connections Client Systems Management</i> documentation.	https://www.dell.com/omconnectionsclient
	For information about viewing inventory, performing configuration, and monitoring tasks, remotely turning on or off servers, and enabling alerts for events on servers and components using the Dell EMC Chassis Management Controller (CMC), see the <i>CMC User's Guide</i> .	https://www.dell.com/cmmanuals
Working with the Dell EMC PowerEdge RAID controllers	For information about understanding the features of the Dell EMC PowerEdge RAID controllers (PERC) and deploying	www.dell.com/storagecontrollermanuals

Table 1. Additional documentation and video resources for your server (continued)

Task	Description	Location
	the PERC cards, see the Storage controller documentation.	
Understanding event and error messages	For information about checking the event and error messages generated by the system firmware and agents that monitor server components, see the <i>Dell EMC Event and Error Messages Reference Guide</i> .	https://www.dell.com/openmanagemanuals
Installing MS Windows Server OS in UEFI Mode using Lifecycle Controller		www.youtube.com/watch?v=3uCuQKNIQpY
Manually installing MS Windows Server OS in UEFI Mode		www.youtube.com/watch?v=T7UpmwS5Ba4

Identifying the series of your PowerEdge servers

The PowerEdge series of servers are divided into different categories based on their configuration. They are referred as YX2X, YX3X, YX4X, YX4XX, or YX5XX series of servers. The structure of the naming convention is described below:

The letter Y denotes the character in the server model number. The character denotes the form factor of the server. The form factors are listed below:

- C- Cloud
- F- Flexible
- M or MX- Modular
- R- Rack
- T- Tower

The letter X denotes the numbers in the server model number. The number denotes multiple characteristics about the server. They are listed as follows:

- The first digit (X) denotes the value stream or class of the server.
 - 1-5—iDRAC basic
 - 6-9—iDRAC Express
- The second digit denotes the series of the server. It is retained in the server naming convention and does not replace the letter X.
 - 0—series 10
 - 1—series 11
 - 2—series 12
 - 3—series 13
 - 4—series 14
 - 5—series 15
- The last digit (X) always denotes the make of the processor as described below:
 - 0-Intel
 - 5-AMD

i NOTE: For servers that use an AMD processor, the model number is made up of four digits instead of three. The third digit (X) denotes the number of processor sockets that the series of server supports.

- 1—one socket server
- 2—two socket server

Table 2. PowerEdge servers naming convention and examples

YX3X servers	YX4X servers	YX4XX servers	YX5XX servers
PowerEdge M630	PowerEdge M640	PowerEdge R6415	PowerEdge R6515
PowerEdge M830	PowerEdge R440	PowerEdge R7415	PowerEdge R7515
PowerEdge T130	PowerEdge R540	PowerEdge R7425	PowerEdge R6525

Download drivers and firmware

It is recommended that you download and install the latest BIOS, drivers, and systems management firmware on your system. Ensure that you clear the web browser cache before downloading the drivers and firmware.

1. Go to www.dell.com/support/drivers.
2. In the **Drivers & Downloads** section, enter the Service Tag of your system in the **Enter a Dell Service Tag, Dell Product ID, or Model** text box, and then click the right arrow button.

 **NOTE:** If you do not have the Service Tag, click **Detect PC** to allow the system to automatically detect your Service Tag.

3. Click **Drivers & Downloads**.
A list of applicable downloads is displayed.
4. Download the drivers or firmware to a USB drive, CD, or DVD.

Contacting Dell Technologies

Dell Technologies provides several online and telephone-based support and service options. Availability varies by country, region, and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues, see <https://www.dell.com/contactdell>.

If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or the product catalog.