Microsoft Windows Server 2016 for Dell PowerEdge Systems

Installation Guide

Notes, cautions, and warnings

(i) **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.**

Contents

Introduction

Scope

This document provides information about installing the Microsoft Windows Server 2016 operating system for Datacenter, Standard, and the Essentials edition.

ⓘ **NOTE: Unlike previous versions of Windows Server, Microsoft Windows Server 2016 does not support the conversion from Windows Server Core to Server with Desktop Experience and vice versa. For more information, go to the Installation options for Windows Server 2016.**

Setting up preinstalled Microsoft Windows Server 2016 operating system

This section provides information about procedures required for completing the setup of the Microsoft Windows Server 2016 operating system 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 that the documentation included with your software or go to Support.microsoft.com.**

To set up your Windows Server 2016 operating system for Datacenter, Standard, and the Essentials edition:

1 Connect the keyboard, monitor, mouse, network cable, power cord, and other peripherals to your system.
2 Turn on your system.
  The **Out Of Box Experience** screen is displayed.
3 Select the appropriate language, and then click **Next** to complete the installation.
4 Select your **Country or Region**, **Language**, and the **Keyboard** layout, then and click **Next**.
  The system prompts you to change the administrator password before logging in for the first time.
5 Select the **I accept the license terms for Windows and this computer** option, and then click **Accept**.

  ⓘ **NOTE: You cannot proceed with the installation if you do not accept the license terms for Windows.**

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

6 Type the administrator password and click **Finish**.

  ⓘ **NOTE: This procedure may take several minutes to complete.**

  ⓘ **NOTE: The password must conform to the password complexity rules. For more information about password complexity rules, see the operating system documentation at Password Policy.**

  The password is changed, and you can log in by using the new password. A Dell customized help file is displayed with various values added scripts or add-ins provided with your system.
7 Select the **OS partition size** on the slider provided on this screen. The recommended minimum partition size for the primary partition is 40 GB and for the Essentials Edition is 60 GB. Press **OK** to continue.
8 The **Server Manager Dashboard** is displayed. Use the dashboard to configure your system with different roles and features.
9 To configure your system for Windows Server 2016 Essential Edition:
  a After rebooting the system, the **Windows Server 2016 Essentials** dashboard is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server and click **Next**.

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The **Company Information** screen is displayed.

b   On the **Company Information** screen, type the appropriate details for the company name and the server name.

Click **Next** to go to the **Create Network Admin account** screen.

c   Create the network administrator with required account name and password. On the next screen, select **Use recommended settings**, and then click **Next** to complete the configuration.

The system reboots and configures to essentials.

10 After reboot, the system is locked and you can log in to the system by pressing Ctrl+Alt+Delete.

11 Type the administrator password, and then press Enter to log in to the system.

The operating system installation is now complete.

Installing and reinstalling Microsoft Windows Server 2016

You can use one of the following methods to install the Microsoft Windows Server 2016 operating system, if you do not have it installed on your server or if you wish to reinstall it:

- Install Windows Server 2016 by using the Dell LifeCycle Controller
- Installing the Operating System using the Windows Server 2016 Media

ⓘ **NOTE: Dell highly recommends that you install the latest hotfixes and security updates from Microsoft on your system by using Windows updates or by downloading the latest updates after installing the operating system.**

Topics:

Install Windows Server 2016 by using Dell LifeCycle Controller

To install Microsoft Windows Server 2016 for Standard, Datacenter, and the Essentials edition by using the Dell LifeCycle Controller:

ⓘ **NOTE: Microsoft Windows Server 2016 deployment by using LifeCycle Controller on Dell's 12th generation of the PowerEdge servers is not supported. Instead select the Any Other Operating System option and continue the deployment.**

1   Connect the keyboard, monitor, mouse, and any additional peripherals to your system.
2   Turn on the system and attached peripherals.
3   Press F10 in the POST to start the **System Services**.
    For Dell's 13th generation of the PowerEdge servers, the following message is displayed:
    ```
    Entering Lifecycle Controller
    ```
4   In the **LifeCycle Controller** window, click the appropriate option if you want to configure hardware, diagnostics, or set changes.
    If no changes are required, select **OS Deployment**.
5   In the **Operating System Deployment** window, click **Deploy OS**.
    The **Configure or Skip RAID** window is displayed. If Redundant Array of Independent Disks (RAID) is configured, the window displays the existing RAID configuration details.
6   Select **Go Directly to OS Deployment**.
    If RAID is not yet configured, configure from this screen before proceeding with the installation.
7   Click **Next**.
    The **Select Operating System** window is displayed with a list of compatible operating systems.
8   Select **Microsoft Windows Server 2016**, and then click **Next**.

    ⓘ **NOTE: If Microsoft Windows Server 2016 is not listed, you need to update the LifeCycle Controller's Drivers for OS Deployment package and then restart the Installation again from Lifecycle controller.**

(i) **NOTE:** Installation of Microsoft Windows Server 2016 by using Lifecycle Controller is only supported on Dell's 13th generation of the PowerEdge servers.

9 Select whether you want to deploy the operating system in UEFI or BIOS mode, and click **Next**.

10 In the **Insert OS Media** window, insert the *Windows Server 2016* media, and then click **Next**.

11 On the **Reboot the System** screen, follow the instructions on the screen, and then click **Finish**.

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

```
Press any key to boot from the CD/DVD...Press any key to begin the installation
```

12 On the **Windows Setup** screen, select the appropriate option for **Language, Time and Currency Format**, and **Keyboard or Input Method**.

13 Click **Next** to continue.

14 On the **Microsoft Windows Server 2016** screen, click **Install Now**.

(i) **NOTE:** In Windows Server 2016 Essentials edition, on clicking Install Now, the License terms window is displayed.

The **Operating System Install** screen is displayed.

15 On the **Operating System Install** screen, select the operating system, and then click **Next**.

The **License terms** window is displayed.

16 Read the license agreement information. If you agree with all the information, select **I accept the license terms** and click **Next**.

17 On the **Which Type of Installation Do You Want** screen, select **Custom: Install Windows only (advanced)**, if it is not selected already.

18 On the **Where do you want to install Windows** screen, specify the partition on which you want to install the operating system.

To create a partition and begin installation:

a Click **New**.

b Specify the size of the partition in MB, and click **Apply**.

The following message is displayed:

```
Windows might create additional partition for system files
```

c Click **OK**.

(i) **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 extra memory on your system, you may require more primary partition space to accommodate page file and hibernation. 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 hard drive space for the primary partition.

d Select the newly created operating system partition, and click **Next**. The **Installing Windows** screen is displayed, and the installation process begins.

After the operating system is installed, the system reboots. Set the administrator password before you can log in for the first time.

19 On the **Settings** screen, enter the password, confirm the password, and then click **Finish**.

20 To configure your system for Windows Server 2016 Essential Edition:

a After reboot, the Windows Server 2016 Essentials dashboard is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server, and then click **Next**.

The **Company Information** screen is displayed.

b On the **Company Information** screen, type the appropriate details for the company name and the server name.

Click **Next** to go to the **Create Network Admin account** screen.

c Create the network administrator with required account name and password. On the next screen, select **Use recommended settings**, and then click **Next** to complete the configuration.

The system reboots and configures to essentials.

21 After reboot, the system is locked and you can log in to the system by pressing Ctrl+Alt+Delete.

22 Type the administrator password, and then press Enter to log in to the system.

The operating system installation is complete.

Install Windows Server 2016 by using operating system media

To install the Microsoft Windows Server 2016 operating system for Standard, Datacenter, and the Essentials edition:

1 Connect a keyboard, monitor, mouse, and any additional peripherals to your system.

2 Turn on your system and any attached peripherals.

Several BIOS screens are displayed during startup, but do not require any user intervention.

> ⓘ **NOTE: This method of installation is supported in the BIOS and UEFI modes.**

3 Insert the *Microsoft Windows Server 2016* media into the DVD drive.

The following message is displayed:

`Loading Files`

> ⓘ **NOTE: If a Windows operating system is installed on your system, the following message is displayed:**
>
> `Press any key to boot from the CD/DVD ... Press any key to begin the installation`

4 After the files are loaded, click the appropriate language that you want to deploy.

5 On the **Windows Setup** screen, select the appropriate **Language**, **Time & Currency**, and the **Keyboard or Input** values, and then click **Next**.

6 On the **Windows Server 2016** screen, click **Install Now**.

The **Operating System Install** screen is displayed.

> ⓘ **NOTE: In Windows Server 2016 Essentials edition, on clicking Install Now, the License terms window is displayed.**

7 On the **Select the operating system you want to install** screen, select the operating system from the available list, and click **Next**.

The **license terms** window is displayed.

8 Read through the license agreement information. If you agree with all the information, select **I accept the license terms**, and then click **Next**.

9 On the **Which type of installation do you want** screen, select **Custom: Install Windows only (advanced)** if it is not selected already.

10 On the **Where do you want to install Windows** screen, specify the partition on which you want to install the operating system.

To create a partition and begin installation:

a Click **Drive options (advanced)** > **New**.

b Specify the size of the partition in MB, and click **Apply**. 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 Standard, Datacenter, Edition is 40 GB and for the Essentials Edition is 60 GB. If you are installing extra memory on your system, you may require more primary partition space to accommodate page file and hibernation. 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 hard drive space for the Primary partition. For information on drive partitioning see the Partitioning a drive section.**

11 Select the newly-created operating system partition, and click **Next**.

After the operating system is installed, the system reboots. Set the administrator password before you can log in for the first time.

> ⓘ **NOTE: For Windows Server 2016 Essentials edition, after the installation is complete you must configure the system before setting the administrator password.**

12 To configure your system for Windows Server 2016 Essential Edition:

a After reboot, the **Windows Server 2016 Essentials** dashboard is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server, and then click **Next**.

The **Company Information** screen is displayed.

b On the **Company Information** screen, type the appropriate details for the company name and the server name.

Click **Next** to go to the **Create Network Admin account** screen.

c   Create the network administrator with required account name and password. On the next screen, select **Use recommended settings**, and then click **Next** to complete the configuration.

The system reboots and configures to essentials.

13   After reboot, the system is locked and you can log in to the system by pressing Ctrl+Alt+Delete.

14   Type the administrator password, and then press Enter to log in to the system.

The operating system installation is complete.

ⓘ **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 operating system.**

Partitioning a drive

Drive partitioning allows you to divide a physical hard drive into multiple virtual hard drives. Each virtual hard drive is called a partition. There are two types of partition schemes:

·   Master Boot Record scheme
·   GUID Partition Table scheme

Master boot record scheme

Master boot record (MBR) scheme is a legacy partition scheme that can be used by most operating systems. The total data storage space of a computer hard drive is divided into at a maximum four primary partitions.

GUID partition table scheme

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

Choosing between partition schemes

ⓘ **NOTE: To change your partition scheme from BIOS to UEFI and vice versa during POST, press F2, select Boot Settings, and press Enter. Change the value of Boot Mode to BIOS or UEFI. For more information, follow steps 1–8 in the Install Windows Server 2016 by using the Dell LifeCycle Controller section.**

The main considerations for choosing between the partition schemes are:

·   Hard drive size
·   Operating system version
·   Software tools used in the operating system

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

ⓘ **NOTE: GPT boot (UEFI boot) is supported only on Dell's 11th generation of the PowerEdge servers or later.**

ⓘ **NOTE: Dell recommends 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 partitions and volumes at **Technet.microsoft.com**. For information about GPT, see the Windows and GPT frequently asked questions at **Microsoft.com**.

Operating system support matrix for the Dell PowerEdge systems

Windows Server OS can only be installed on certain Dell PowerEdge systems. For a list of the Dell-supported PowerEdge systems and OS combinations, see the *Operating System Support Matrix for Dell PowerEdge Systems* at Dell.com/ossupport.

Supported Microsoft Windows videos for Dell PowerEdge systems

Table 1. Supported Microsoft Windows videos for Dell PowerEdge systems

Video title	Links
Downloading the driver for Windows from the Dell support site	www.youtube.com/watch?v=r55q4HuyskM
Installing Microsoft Windows 2016 operating system in UEFI mode by using Dell LifeCycle Controller	www.youtube.com/watch?v=JDW_kZdtv9g
Installing Microsoft Windows 2016 operating system in UEFI mode manually	www.youtube.com/watch?v=dtisbtatoVY
Installing Nano server in BIOS mode on Dell's 13th generation of PowerEdge systems	www.youtube.com/watch?v=f5x37DSvAG0
Installing Nano server in UEFI mode on Dell's 13th generation of PowerEdge systems	www.youtube.com/watch?v=5bpE1EmRB5Y

Getting help

Topics:

Contacting Dell

Dell provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical assistance, or customer service issues:

1 Go to Dell.com/support.
2 Select your country from the drop-down menu on the lower right corner of the page.
3 For customized support:
  a Enter your system Service Tag in the **Enter your Service Tag** field.
  b Click **Submit**.
    The support page that lists the various support categories is displayed.
4 For general support:
  a Select your product category.
  b Select your product segment.
  c Select your product.
    The support page that lists the various support categories is displayed.
5 For contact details of Dell Global Technical Support:
  a Click Global Technical Support.
  b The **Contact Technical Support** page is displayed with details to call, chat, or e-mail the Dell Global Technical Support team.

Documentation resources

This section provides information about the documentation resources for your server.

Table 2. Additional documentation resources for your server

Task	Document	Location
Setting up your server	For information about installing the server into a rack, see theRack documentation included with your rack solution Or the *Getting Started With Your System* document that is shipped with your server.	Dell.com/poweredgemanuals
	For information about turning on the server and the technical specifications of your server, see	Dell.com/poweredgemanuals

Task	Document	Location
	the *Getting Started With Your System* document that is shipped with your server.	
Configuring your server	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your server remotely, see the Integrated Dell Remote Access Controller User's Guide.	Dell.com/idracmanuals
	For information about installing the operating system, see the operating system documentation.	Dell.com/operatingsystemmanuals
	For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM Command Line Reference Guide for iDRAC.	Dell.com/idracmanuals
	For information about updating drivers and firmware, see the Methods to download firmware and drivers section in this document.	Dell.com/support/drivers
Managing your server	For information about servers management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide.	Dell.com/openmanagemanuals
	For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.	Dell.com/openmanagemanuals
	For information about installing, using, and troubleshooting Dell OpenManage Essentials, see the Dell OpenManage Essentials User's Guide.	Dell.com/openmanagemanuals
	For information about installing and using Dell System E-Support Tool (DSET), see the Dell System E-Support Tool (DSET) User's Guide.	Dell.com/DSET
	For information about installing and using Active System Manager (ASM), see the Active System Manager User's Guide.	Dell.com/asmdocs
	For understanding the features of Dell Lifecycle Controller (LCC), see the Dell Lifecycle Controller User's Guide.	Dell.com/idracmanuals

Task	Document	Location
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	Dell.com/omconnectionsenterprisesystemsmanagement
	For information about connections and client systems management, see the OpenManage Connections Client Systems Management documentation.	Dell.com/dellclientcommandsuitemanuals
	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 Chassis Management Controller (CMC), see the CMC User's Guide.	Dell.com/esmmanuals
Working with the Dell PowerEdge RAID controllers	For information about understanding the features of the Dell PowerEdge RAID controllers (PERC) and deploying the PERC cards, see the Storage controller documentation.	Dell.com/storagecontrollermanuals
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 Dell Event and Error Messages Reference Guide.	Dell.com/openmanagemanuals > OpenManage software

Downloading the drivers and firmware

Dell recommends 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 Dell.com/support/drivers.
2   In the **Drivers & Downloads** section, type the Service Tag of your system in the **Service Tag or Express Service Code** box, and then click **Submit**.

> ⓘ NOTE: If you do not have the Service Tag, select Detect My Product to allow the system to automatically detect your Service Tag, or in General support, navigate to your product.

3   Click **Drivers & Downloads**.
    The drivers that are applicable to your selection are displayed.
4   Download the drivers to a USB drive, CD, or DVD.

Documentation feedback

You can rate the documentation or write your feedback on any of our Dell documentation pages and click **Send Feedback** to send your feedback.