


XPS 16 9640

Re-imaging guide for Windows

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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Installation overview

CAUTION: This section of the re-imaging guide covers driver installation and driver updates and is designed for system administrators. Do not attempt to install or update drivers on the system if you are not an administrator or if you are unsure of the procedures. Failure to follow instructions may result in permanent data loss.

NOTE: Information provided in this guide is only applicable to computers shipped with Windows 11 operating system.

NOTE: Dell Technologies recommends that you download and install the device drivers from the Dell [Drivers & Downloads](#) website. Installing device drivers from a non-Dell website can cause system performance issues, corrupt operating system files, blue screen errors, unexpected shutdowns, or infect your computer with malicious software.

Device drivers must be updated when you reinstall the operating system using either a CD, DVD, USB key, or when you are facing networking, graphics, sound or other hardware-related problems. Dell Technologies recommends that you install or update device drivers if you have performed a factory reset of your Dell computer using the [Dell Backup and Recovery](#) application or other factory-reset methods. This ensures that you have the latest device drivers installed on your computer and that the devices function optimally.

Installing or updating device drivers may lead to the following improvements:

- Increases in system performance
- Patched security risks
- Expanded compatibility
- Fixed device issues
- Support for new features

However, if your computer is operating normally and there are no driver issues or updates being prompted by Windows, driver updates may be unnecessary. Updating drivers unnecessarily may create new problems.

Review the importance of each driver update on the Dell [Drivers & Downloads](#) page before assessing the need to continue with an update.

Introduction

CAUTION: This re-imaging guide is designed for system administrators. Do not attempt to re-image the computer if you are not an administrator or are unsure of the procedures. Failure to follow instructions may result in permanent data loss.

NOTE: The information that is provided in this guide is only applicable to computers shipped with the Windows 11 operating system.

Re-imaging is the process of removing all software on the computer and reinstalling the removed software. Re-imaging is required when software in the computer is corrupted or damaged and it can also be used as a means of removing harmful and malicious software in your computer. This re-imaging guide provides the steps that are required for re-imaging your computer.


This guide assists you in installing Dell-recommended software stack and settings, drivers, and applications, which are tested and validated on your computer. The installation of the listed drivers and applications as described in the guide enhances the optimal performance of your computer.

Dell also provides drivers and applications that are not included with the Windows operating system. These drivers are required to enable the following solid-state drives (SSDs):


- 512 GB M.2 2230 PCIe SSD
- 1024 GB M.2 2280 PCIe SSD
- 2048 GB M.2 2280 PCIe SSD and larger capacity size PCIe SSDs

It is always recommended to re-image on a newly installed operating system and not from any previous image-build. Ensure BIOS settings, configurations, and modes are appropriately set and the latest drivers and applications are used when re-imaging the computer.

Order of reinstallation

 **NOTE:** Some drivers and application installation steps may not be applicable, depending on the configuration of the computer you have ordered.

To achieve optimal performance, install the drivers and applications in the following sequence:

1. **BIOS:** Enables the operating system to be loaded into the memory and enables the initial setup process on your computer.
 2. **Windows operating system:** The operating system controls the computer's hardware to be a base on which other software can operate on.
 3. **Intel chipset driver:** Allows Windows to communicate and adjust settings on components on the system board which includes:
 - Intel Chipset Device Software Driver
 - Intel Management Engine Components Installer
 - Intel Serial IO Driver
 - Intel HID Event Filter Driver
 - Intel Dynamic Tuning Driver
 - Intel Integrated Sensor Solution Driver
 - Intel Innovation Platform Framework Driver
 - Intel AI Boost Driver
 - Intel Platform Monitoring Technology Driver
 - Intel 2D Imaging/MCU/Visual Sensing Controller Driver
 4. **Networking and communication drivers**, which include:
 - Wireless Local Area Network (WLAN) adapter driver: Enables and enhances the wireless adapter.
 - Bluetooth driver: Enables and enhances the Bluetooth adapter.
 5. **Install the latest updates and drivers:**
 - For commercial computers, use **Dell Command Updates (DCU)**.
 - For consumer computers, use **SupportAssist**.
-  **NOTE:** Drivers can be downloaded and installed manually from the [Drivers & Downloads](#).
6. **Critical Microsoft Knowledge Base (KB) updates:** Microsoft updates that fix and optimize the operating system. For more information, see [Windows release information](#).
 7. **Media-card reader driver:** Enables and enhances the media-card reader.
 8. **Intel Rapid Storage Technology (IRST):** Enables and enhances data storage virtualization for the storage drives installed in the computer.
 9. **Graphics driver:**
 - Enhances and optimizes video performance.
 - Enables and provides additional functionality not included in the native Microsoft VGA driver, including:
 - User-customizable power management features
 - Portability and behavioral profiles
 - Multiple-monitor support
 10. **Audio driver:** Enables and enhances the audio controller.
 11. **Security drivers:** Goodix Fingerprint Sensor
 12. **Dell applications**, which include:
 - MyDell
 - SupportAssist
 - Dell Update

Updating or resetting the BIOS


Flashing the BIOS

About this task

It is recommended to flash the BIOS when an update is available or when you replace the system board. To flash the BIOS:

Steps

1. Turn on your computer.
2. Go to www.dell.com/support.
3. Click **Product support**, enter the Service Tag of your computer, and then click **Submit**.

 **NOTE:** If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.

4. Click **Drivers & Downloads**.
5. Select the operating system installed on your computer.
6. Scroll down the page and expand **BIOS**.
7. Click **Download** to download the latest version of the BIOS for your computer.
8. After the download is complete, navigate to the folder where you saved the BIOS update file.
9. Double-click the BIOS update file icon and follow the instructions on the screen.

Clearing CMOS settings

About this task

If flashing your computer with the latest BIOS update results in your computer being unable to boot, a BIOS reset is necessary. Clearing the CMOS settings will reset the BIOS to factory settings. For more information about clearing the CMOS settings, see your computer's *Service Manual*.

Trusted Platform Module (TPM) security

About this task

TPM must be enabled in the BIOS setup program for it to be deployed on the computer. Follow these steps to enable and configure the TPM:

Steps

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program. The BIOS setup program is displayed.
3. On the left pane, select **Security > TPM 2.0 Security**.
4. Select or clear any of the following options to enable or disable it, respectively:
 - **Enabled (Default):** The BIOS enables the TPM during POST and it can be accessed by the operating system.
 - **Disabled:** The BIOS will not enable the TPM during POST and it cannot be accessed by the operating system.
 - **TPM On:** The TPM is enabled and activated.
 - **Clear:** The BIOS clears the information stored in the TPM.
5. Save the settings and exit.

Reinstalling the operating system

The Windows operating system is validated for use on this computer. You can reset or reinstall the operating system under different scenarios. For more information about reinstalling the operating system, see the knowledge base article [000192698](https://www.dell.com/support/article/000192698) at www.dell.com/support.

You can use Dell BIOSConnect to recover the operating system of your computer. See the knowledge base article [000177771](https://www.dell.com/support/article/000177771) at www.dell.com/support.

Before reinstalling Windows, Dell Technologies recommends that you back up your data. Dell also recommends that you manually delete any enrolled users' information (such as fingerprints) stored in Windows Settings before proceeding with installation. For instructions, refer to Microsoft Support.

Reinstalling drivers and applications

Drivers and applications are software that enables Windows to communicate with the hardware devices and software in your computer. Devices such as video and sound cards require drivers to function correctly within Windows, and enable users to adjust hardware settings.


Windows includes drivers for most devices, but device-specific drivers may have to be downloaded and installed separately. Dell Technologies recommends that you download the device drivers for your Dell computer from [Drivers & Downloads](#).

Applications must be downloaded and installed separately. Dell Technologies recommends that you download the required applications for your Dell computer from the [Dell Download Center](#).

Displaying drivers and applications on your computer

Steps

1. Turn on your computer.
2. Go to www.dell.com/support.
3. In the **Search support** field, enter the Service Tag/Serial Number/Service Request/Model/Keyword of your computer, and then click **Search**.

 **NOTE:** If you do not have the Service Tag/Serial Number/Service Request/Model/Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.

4. Click **Drivers & downloads > Find drivers**.
5. Select the Windows operating system installed on your computer to get a list of the drivers and applications available on your computer.

Reinstallation sequence for drivers and applications

Driver installation is critical after reinstalling the Windows operating system on your Dell computer. Install the drivers in the correct sequence for your computer to function correctly. In some scenarios, you may have to reinstall or update the device driver if you are encountering issues with a specific device.

For more information, see the Dell knowledge base article [000132394](https://www.dell.com/support) at www.dell.com/support.

NOTE: The Windows operating system includes touchpad drivers; no other touchpad-driver installation is required.

NOTE: The Windows operating system includes the webcam drivers; no additional webcam-driver installation is required. For video capture or streaming, users can install webcam software available from third-party providers.

Dell Technologies recommends installing drivers or applications in the following sequence.

Intel chipset device software

The Windows operating system may not include the updated Intel chipset device software for Dell computers. The Intel chipset device software is available on Dell's support site www.dell.com/support.

Downloading and installing the chipset driver

Steps

1. Turn on the computer.
2. Go to www.dell.com/support.
3. In the **Search support** field, enter the Service Tag, Serial Number, Service Request, Model, or Keyword of your computer, and then click **Search**.

NOTE: If you do not have the Service Tag, Serial Number, Service Request, Model, or Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.
4. Click **Drivers & Downloads**, and expand **Find drivers**.
5. From the **Category** drop-down list, select **Chipset** to see the list of chipset driver that you can download.
6. Select a chipset driver and click **Download**.
7. After the download is complete, go to the folder where you have saved the chipset driver file.
8. Double-click the chipset driver file icon and follow the on-screen instructions.

Critical Microsoft Knowledge Base (KB) updates

Dell Technologies recommends installing all the latest available KB updates on your computer. KB updates are automatically downloaded and installed when Windows Updates are enabled and can also be manually downloaded and installed from the Microsoft support site. For more information, see [Windows 11 - release information](#).


Media-card reader driver

The Windows operating system does not include the media-card reader driver. Install the Realtek driver that is available for download from www.dell.com/support.

Downloading and installing the media-card reader driver

Steps

1. Turn on the computer.
2. Go to www.dell.com/support.
3. In the **Search support** field, enter the Service Tag, Serial Number, Service Request, Model, or Keyword of your computer, and then click **Search**.

 **NOTE:** If you do not have the Service Tag, Serial Number, Service Request, Model, or Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.

4. Click **Drivers & Downloads**, and expand **Find drivers**.
5. From the **Category** drop-down, select **Chipset**.
6. Select a media-card reader driver and click **Download**.
7. After the download is complete, go to the folder where you have saved the media-card reader driver file.
8. Double-click the media-card reader driver file icon and follow the instructions on the screen.


Intel Rapid Storage Technology (IRST)

The Intel Rapid Storage Technology (Intel RST) Driver enables and enhances high-performance SATA/NVMe RAID capabilities for supported operating systems. The IRST software package provides added protection against data loss in the event of a hard-drive failure, and supports the configuration of multiple features, including:

- Configuration and maintenance of RAID 0/1
- Intel VMD support from 11th Generation platforms (see [How to Configure RAID or Intel Optane Memory with Intel RST on an Intel VMD Capable Platform](#)).

The following conditions must be met before you can install IRST on your computer.

- Your computer has a RAID I/O controller hub (ICH). If your computer does not have a RAID ICH, you cannot install IRST unless a third-party RAID controller card is installed.
- Your RAID controller is enabled by default.

 **CAUTION:** If an operating system is already installed, changing the SATA/NVMe settings in the BIOS Setup may cause your computer to display a blue screen and an error code, followed by a system reboot. To change settings, reinstall the operating system.

Graphics

The Windows operating system includes the VGA-graphics driver only. For optimal graphics performance, install the Dell graphics driver applicable to your computer from www.dell.com/support.

Downloading and installing the Dell graphics driver

Steps

1. Turn on your computer.
2. Go to www.dell.com/support.

3. In the **Search support** field, enter the Service Tag, Serial Number, Service Request, Model, or Keyword of your computer, and then click **Search**.

NOTE: If you do not have the Service Tag, Serial Number, Service Request, Model, or Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.

4. Click **Drivers & Downloads**, and expand **Find drivers**.
5. From the **Category** drop-down list, select **Video** to see the list of graphics driver that you can download.
6. Select a graphics driver and click **Download**.
7. After the download is complete, go to the folder where you have saved the graphics driver file.
8. Double-click the graphics driver file icon and follow the on-screen instructions.

Audio

The Windows operating system does not include the audio driver recommended by Dell. Install the HD audio driver available for download from www.dell.com/support.

Downloading and installing the Dell audio driver

Steps

1. Turn on your computer.
2. Go to www.dell.com/support.
3. In the **Search support** field, enter the Service Tag, Serial Number, Service Request, Model, or Keyword of your computer, and then click **Search**.

NOTE: If you do not have the Service Tag, Serial Number, Service Request, Model, or Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.

4. Click **Drivers & Downloads**, and expand **Find drivers**.
5. From the **Category** drop-down list, select **Audio** to see the list of audio driver that you can download.
6. Select a audio driver and click **Download**.
7. After the download is complete, go to the folder where you have saved the audio driver file.
8. Double-click the audio driver file icon and follow the on-screen instructions.

Fingerprint-reader driver

Downloading and installing the fingerprint-reader driver

Steps

1. Turn on your computer.
2. Go to www.dell.com/support.
3. In the **Search support** field, enter the Service Tag, Serial Number, Service Request, Model, or Keyword of your computer, and then click **Search**.

NOTE: If you do not have the Service Tag, Serial Number, Service Request, Model, or Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.

4. Click **Drivers & Downloads**, and expand **Find drivers**.
5. From the **Category** drop-down list, select **Security** to see the list of security driver that you can download.
6. Select the Goodix Fingerprint Sensor Driver and click **Download**.


7. After the download is complete, go to the folder where you have saved the Goodix Fingerprint Sensor driver file.
8. Double-click the Goodix Fingerprint Sensor driver file icon and follow the on-screen instructions.

Wireless Local Network (WLAN) drivers and applications

The Windows operating system does not provide native-device driver support for WLAN controllers on Dell computers. To obtain wireless network functionality, install the relevant WLAN drivers from the Dell support site. WLAN applications, which provide additional features including enterprise authentication enhancements, can also be installed from the Dell support site.

Downloading and installing the Wi-Fi driver

Steps

1. Turn on the computer.
2. Go to www.dell.com/support.
3. In the **Search support** field, enter the Service Tag, Serial Number, Service Request, Model, or Keyword of your computer, and then click **Search**.
 **NOTE:** If you do not have the Service Tag, Serial Number, Service Request, Model, or Keyword, use the SupportAssist feature to automatically identify your computer. You can also click **Browse all products** to manually browse for your computer.
4. Click **Drivers & Downloads**.
5. From the **Category** drop-down list, select **Network, Ethernet & Wireless**.
6. Click **Download** to download the preferred Wi-Fi controller and Bluetooth drivers for your computer.
7. After the download is complete, go to the folder where you saved the driver files.
8. Double-click the file icon of each driver file, and follow the instructions on the screen.

.NET Framework



The .NET Framework is a software framework from Microsoft, which is bundled with Windows operating systems. The .NET Framework is intended to be used by applications created for the Windows platform.

Getting help and contacting Dell

Self-help resources


You can get information and help on Dell products and services using these self-help resources:


Table 1. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
My Dell app	
Tips	
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	www.dell.com/support/windows
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at www.dell.com/support . For more information about how to find the Service Tag for your computer, see Locate the Service Tag on your computer .
Dell knowledge base articles	<ol style="list-style-type: none"> 1. Go to www.dell.com/support. 2. On the menu bar at the top of the Support page, select Support > Knowledge Base. 3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

 **NOTE:** Availability varies by country/region and product, and some services may not be available in your country/region.

 **NOTE:** 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.