Dell Latitude 7400

Setup and Specifications

Regulatory Model: P100G
Regulatory Type: P100G001
October 2021
Rev. A04

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.

Contents

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Set up your computer

1. Connect the power adapter and press the power button.

   NOTE: To conserve battery power, the battery might enter power saving mode.

2. Finish the Windows system setup.
3. Follow the on-screen instructions to complete the setup. When setting up, Dell recommends that you:
   - Connect to a network for Windows updates.

     NOTE: If connecting to a secured wireless network, enter the password for the wireless network access when prompted.
   - If connected to the internet, sign-in with or create a Microsoft account. If not connected to the internet, create an offline account.
   - On the **Support and Protection** screen, enter your contact details.
4. Locate and use Dell apps from the Windows Start menu—Recommended

Table 1. Locate Dell apps

Dell apps	Details
	Dell Product Registration Register your computer with Dell.
	Dell Help & Support Access help and support for your computer.
	SupportAssist Proactively checks the health of your computer's hardware and software.

Table 1. Locate Dell apps (continued)

Dell apps	Details
	NOTE: Renew or upgrade your warranty by clicking the warranty expiry date in SupportAssist.
	**Dell Update** Updates your computer with critical fixes and important device drivers as they become available.
	**Dell Digital Delivery** Download software applications including software that is purchased but not pre-installed on your computer.

5. Create recovery drive for Windows.

   NOTE: It is recommended to create a recovery drive to troubleshoot and fix problems that may occur with Windows.

6. For more information, see Create a USB recovery drive for Windows.

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Chassis

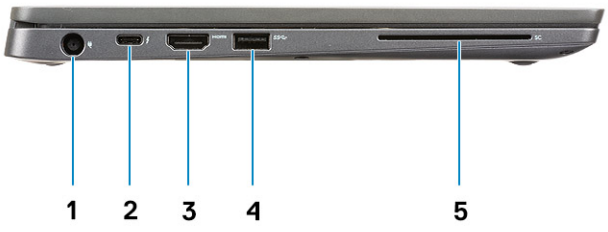
This chapter illustrates the multiple chassis views along with the ports and connectors and also explains the FN hot key combinations.

Topics:

Front view

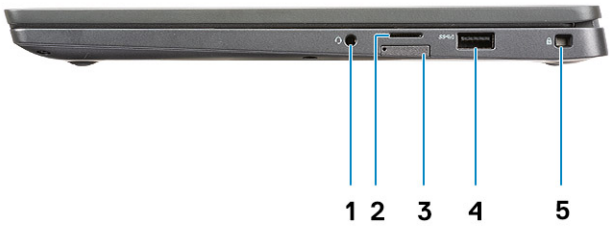
1. Microphone array
2. SafeView switch
3. Camera
4. Camera status LED
5. Microphone
6. Display panel
7. Battery status LED

Left view



1. Power adapter port
2. USB Type-C 3.1 Gen 2 port (Thunderbolt)
3. HDMI 1.4a port
4. USB Type-A 3.1 Gen 1 port
5. Smart card slot

Right view

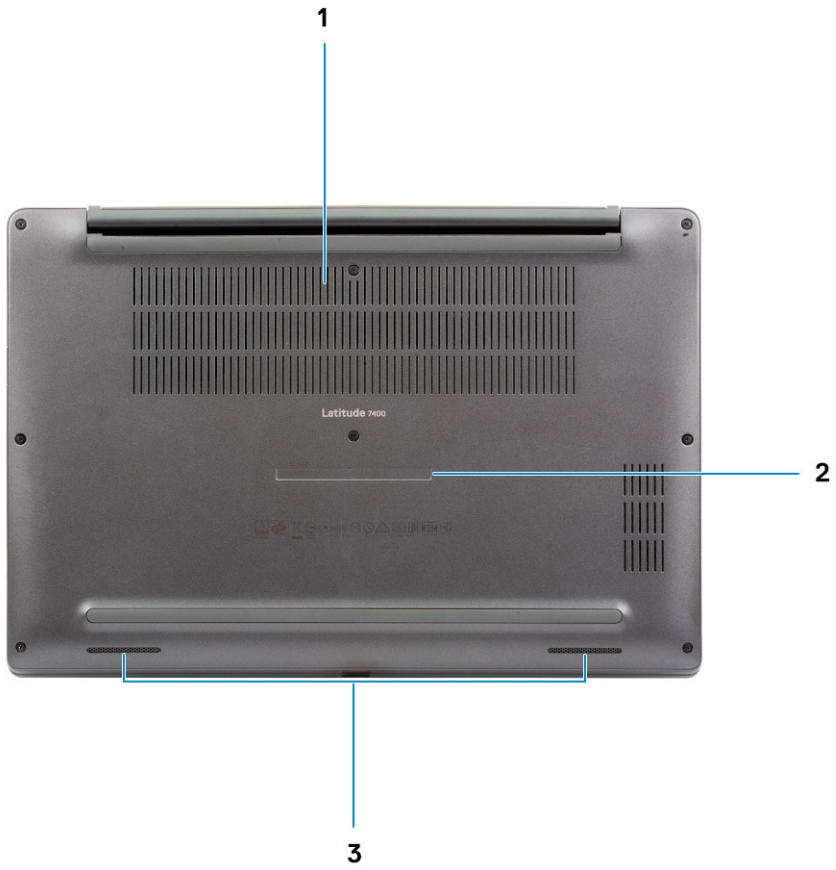


1. Universal audio port (Headset Jack + microphone-in + line-in support)
2. micro-SD 4.0 memory card reader
3. SIM card slot
4. USB Type-A 3.1 Gen 1 ports (PowerShare capable)
5. Noble wedge lock slot

Palmrest view

1. Power button (with optional finger print reader - no LED)
2. Keyboard
3. Touchpad

Bottom view



1. Thermal vent
2. Service tag label
3. Speakers

3

Keyboard shortcuts

NOTE: Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for shortcuts remain the same across all language configurations.

Table 2. List of keyboard shortcuts

Keys	Primary behavior	Secondary behavior (Fn + Key)
Esc	Escape	Toggle Fn-key lock
F1	Mute audio	F1 behavior
F2	Decrease volume	F2 behavior
F3	Increase volume	F3 behavior
F4	Mute microphone	F4 behavior
F5	Turn on/off keyboard backlights	F5 behavior
F6	Decrease screen brightness	F6 behavior
F7	Increase screen brightness	F7 behavior
F8	Switch to external display	F8 behavior
F10	Print screen	F10 behavior
F11	Home	F11 behavior
F12	End	F12 behavior
Insert	Insert	Numlock
Delete	Delete	Delete

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Technical specifications

NOTE: Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to Help and Support in your Windows operating system and select the option to view information about your computer.

Topics:

System information

Table 3. System information

Feature	Specifications
Chipset	Intel Chipset
DRAM bus width	64-bit
FLASH EPROM	24 MB / 32 MB
PCIe bus	100 Mhz

Processor

NOTE: Processor numbers are not a measure of performance. Processor availability is subject to change and may vary by region/country.

Table 4. Processor specifications

Type	UMA Graphics
8th Generation Intel core i5-8265U Processor (Quad Core (QC), 6M SmartCache, base frequency 1.6 GHz, up to 3.9 GHz)	
8th Generation Intel core i7-8665U Processor (QC, 8M SmartCache, base frequency 1.9 GHz, up to 4.8 GHz)	Intel UHD Graphics 620 (8th Generation Intel Core)
8th Generation Intel core i5-8365U Processor (QC, 6M SmartCache, base frequency 1.6 GHz, up to 4.1 GHz)	

Memory

Table 5. Memory specifications

Feature	Specifications
Minimum memory configuration	4 GB
Maximum memory configuration	32 GB
Number of slots	Two SoDIMM
Memory options	• 4 GB - 1 x 4 GB • 8 GB - 1 x 8 GB • 8 GB - 2 x 4 GB • 16 GB - 1 x16 GB • 16 GB - 2 x 8 GB • 32 GB - 2 x 16 GB
Type	DDR4
Speed	2400 MHz

Storage

Table 6. Storage specifications

Type	Form factor	Interface	Capacity
Solid-state drive	M.2 2280	PCIe / SATA	Up to 1 TB
Solid-state drive	M.2 2230 (With bracket)	PCIe	128 GB
Self Encrypting Drive (SED) / Opal SED	M.2 2280	PCIe NVMe	256 GB

Media card-reader

Table 7. Media card-reader specifications

Feature	Specifications
Type	One micro-SD card slot
Supported cards	• SD

Table 7. Media card-reader specifications (continued)

Feature	Specifications
	• SDHC • SDXC

Audio

Table 8. Audio specifications

Feature	Specifications
Controller	Realtek ALC3254 with Waves MaxxAudio Pro
Type	Two-channel high-definition audio
Speakers	Two (Directional speakers)
Interface	Intel HDA bus
Internal speaker amplifier	2 W (RMS) per channel

Video card

Table 9. Video card specifications

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
Intel UHD Graphics 620	UMA	• 8th Gen Intel Core i5 processor • 8th Gen Intel Core i7 processor	Integrated	Shared system memory	HDMI 1.4a	4096 x 2304

Camera

Table 10. Camera specifications

Feature	Specifications
Resolution	• Still image: 0.92 megapixels • Video: 1280 x 720 at 30 fps
Diagonal viewing angle	• Diagonal >/ 86.7° (tolerance +/- 3%) • Vertical >/ 47°
Camera Options	• No Camera • 6.0 mm RGB HD • 6.0 mm RGB IR • 3.0 mm RGB IR • 2.7 mm RGB HD Ambient Light Sensor is only available with the 3mm IR camera option
Video Max resolution	1280 x 720 (HD) at 30 FPS
Still image max resolution	0.92 megapixel (1280 x 720)

Ports and connectors

Table 11. Ports and connectors

Features	Specifications
Memory card reader	micro-SD 4.0 memory card reader (optional)
USB	• One USB Type-C 3.1 Gen 2 port (Thunderbolt) • Two USB Type-A 3.1 Gen 1 ports (one PowerShare capable)
Security	• Noble Wedge lock slot • Smart card reader (optional)
Docking port	Dell USB 3.0 Dock (UNO)
Audio	Universal audio jack (Headset Jack + microphone-in + line-in support)
Video	HDMI 1.4a

Wireless

Wireless LAN card specifications

Table 12. Wireless LAN card specifications

Wireless card options
Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter + Bluetooth 4.2 (non vPro)
Intel Dual-Band Wireless-AC 9560 Wi-Fi + Bluetooth 5.0 Wireless Card (2x2)(vPro)(Bluetooth Optional)
Intel Wi-Fi 6 AX200 2x2 .11ax 160MHz + Bluetooth 5.0

WWAN card specifications

Table 13. Wireless WAN card specifications

Wireless card option
Mobile Broadband Qualcomm Snapdragon X20 Global Gigabit LTE (Optional)

Display

Table 14. Display specifications

Feature	Specifications
Type	• 14-in. HD AG (WXGA 1366x768), 220 nits, non-touch display • 14-in. FHD AG (1920 x 1080), 300 nits, non-touch display • 14-in. FHD AG (1920 x 1080), 300 nits, non-touch display with Dynamic Privacy Dell SafeScreen • 14-in. FHD AG (1920 x 1080), 255 nits, touch display

Table 14. Display specifications (continued)

Feature	Specifications
Height (Active area)	173.89 mm (6.85 in.)
Width (Active area)	309.14 mm (12.18 in.)
Diagonal	355.6 mm (14.0 in.)
Luminance/Brightness (typical)	HD: 220 nits (Super Low Power) / FHD: 300 nits
Refresh rate	60 Hz

Keyboard

Table 15. Keyboard specifications

Feature	Specifications
Number of keys	• 81 (U.S) • 82 (UK) • 82 (Brazil) • 85 (Japan)
Size	Full sized • X= 19.05 mm key pitch • Y= 19.05 mm key pitch
Backlit keyboard	Optional
Layout	QWERTY / AZERTY / Kanji

Touchpad

Table 16. Touchpad specifications

Feature	Specifications
Resolution	1048 x 984
Dimensions	• Width: 3.91 inch (99.5 mm) • Height: 2.08 inch (53 mm)
Multi-touch	Configurable single finger and multi-finger gestures

Touchpad gestures

For more information about touchpad gestures for Windows 10, see the Microsoft knowledge base article 4027871 at support.microsoft.com.

Operating system

Table 17. Operating system

Feature	Specifications
Operating systems supported	• Windows 10 Home (64 bit) • Windows 10 Pro (64 bit) • Ubuntu

Battery

Table 18. Battery specifications

Type	• Polymer 3-cell 42 WHr • Polymer 4-cell 60 WHr • Polymer 4-cell 60 WHr (LCL)
Dimension	Polymer 3-cell 42 WHr • Width: 95.9 mm (3.78 in) • Length: 200.5 mm (7.89 in) • Height: 5.7 mm (0.22 in) Polymer 4-cell 60 WHr and LCL • Width: 95.9 mm (3.78 in) • Length: 238 mm (9.37 in) • Height: 5.7 mm (0.22 in)
Weight (maximum)	• Polymer 3-cell 42 WHr: 192.5 g (0.42 lb) • Polymer 4-cell and LCL: 270 g (0.60 lb)
Voltage	11.4 VDC
Life span	• Polymer 3-cell 42 WHr and 4-cell 60 WHr (Standard Pack): 300 discharge / charge cycles • Polymer 4-cell 60 WHr (LCL): 1000 discharge / charge cycles

Charging time when the computer is off (approximate)	• Standard Charge: 0°C to 50°C : 4 hours
	• Express Charge†:
	  ○ 0°C to 15°C : 4 hours
	  ○ 16°C to 45°C : 2 hours
	  ○ 46°C to 50°C : 3 hours

Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions
Temperature range: Operating	• Charging: 0°C to 50°C (32°F to 122°F) • Discharging : 0°C to 70°C (32°F to 158°F)
Temperature range: Storage	-20°C to 60°C (-4°F to 140°F)
Coin-cell battery	CR 2032

NOTE: †For batteries with the ExpressCharge feature, the battery will typically have at least an 80% charge after about an hour of charging with the system off, and fully charged in about 2 hours with the system off.

Enabling ExpressCharge requires that both the computer and the battery used be ExpressCharge capable. If these requirements are not met, ExpressCharge will not be enabled.

Power adapter

Table 19. Power adapter specifications

Feature	Specifications
Type	• E5 65 W 7.4 mm Barrel Adapter • E5 65 W BFR/PVC Halogen Free adapter, 7.4 mm barrel • E5 65 W Rugged Adapter 7.4 mm barrel (India only) • E5 90 W 7.4 mm Barrel Adapter • 65 W adapter, Type-C • 90 W adapter, Type-C
Input Voltage	100 VAC - 240 VAC
Input current (maximum)	• 1.7 A for 65 W • 2.5 A for 90 W
Input frequency	50 Hz to 60 Hz
Output current	• 3.34 A for 65 W • 4.62 A for 90 W
Rated output voltage	19.5 VDC
Temperature range (Operating)	0°C to 40° C (32°F to 104°F)
Temperature range (Non-Operating)	40°C to 70°C (-40°F to 158°F)

Dimensions and weight

Table 20. Dimensions and weight

Feature	Specifications	
	Aluminum (Al)	Carbon fibre (CF)
Height	Front - 16.75 mm(0.66 inch) Rear - 18.20 mm(0.72 inch)	Front - 17.82 mm(0.70 inch) Rear - 18.96 mm(0.75 inch)
Width	321.35 mm(12.65 inch)	
Depth	214.08 mm (8.42 inch)	
Weight	1.4 kg(3.11 lb)	1.35 kg(2.99 lb)

Computer environment

Airborne contaminant level: G1 as defined by ISA-S71.04-1985

Table 21. Computer environment

	Operating	Storage
Temperature range	0°C to 40°C (32°F to 104°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing) **NOTE:** Maximum dew point temperature = 26°C	0% to 95% (non-condensing) **NOTE:** Maximum dew point temperature = 33°C
Vibration (maximum)	0.66 GRMS	1.30 GRMS
Shock (maximum)	140 G †	160 G‡
Altitude (maximum)	0 m to 3048 m (0 ft to 10,000 ft)	0 m to 10,668 m (0 ft to 35,000 ft)

* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse when the hard drive is in use.

‡ Measured using a 2 ms half-sine pulse when the hard-drive head is in parked position.

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System setup

CAUTION: Unless you are an expert computer user, do not change the settings in the BIOS Setup program. Certain changes can make your computer work incorrectly.

NOTE: Before you change BIOS Setup program, it is recommended that you write down the BIOS Setup program screen information for future reference.

Use the BIOS Setup program for the following purposes:

- Get information about the hardware installed in your computer, such as the amount of RAM and the size of the hard drive.
- Change the system configuration information.
- Set or change a user-selectable option, such as the user password, type of hard drive installed, and enabling or disabling base devices.

Topics:

BIOS overview

The BIOS manages data flow between the computer's operating system and attached devices such as hard disk, video adapter, keyboard, mouse, and printer.

Entering BIOS setup program

1. Turn on your computer.
2. Press F2 immediately to enter the BIOS setup program.

   NOTE: If you wait too long and the operating system logo appears, continue to wait until you see the desktop. Then, turn off your computer and try again.

Navigation keys

NOTE: For most of the System Setup options, changes that you make are recorded but do not take effect until you restart the system.

Table 22. Navigation keys

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.

Table 22. Navigation keys (continued)

Keys	Navigation
Enter	Selects a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
Tab	Moves to the next focus area. **NOTE:** For the standard graphics browser only.
Esc	Moves to the previous page until you view the main screen. Pressing Esc in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.

One time boot menu

To enter **one time boot menu**, turn on your computer, and then press F12 immediately.

NOTE: It is recommended to shutdown the computer if it is on.

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot menu options are:

- Removable Drive (if available)
- STXXXX Drive (if available)

  NOTE: XXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

The boot sequence screen also displays the option to access the System Setup screen.

System setup options

NOTE: Depending on the laptop and its installed devices, the items listed in this section may or may not appear.

General options

Table 23. General

Option	Description

System Information	This section lists the primary hardware features of your computer.
	The options are:
	• **System Information**
	  ○ BIOS version
	  ○ Service Tag
	  ○ Asset Tag
	  ○ Ownership Tag
	  ○ Manufacture Date
	  ○ Express Service Code
	• **Memory Configuration**
	  ○ Memory Installed

Table 23. General (continued)

Option	Description
	○ Memory Available ○ Memory Speed ○ Memory Channel Mode ○ Memory Technology ○ DIMM A Size ○ DIMM B Size **NOTE:** Due to an amount of memory being assigned for system use, "Memory Available" is less than "Memory Installed". Note that certain operating systems may not be able to use all the available memory. ● **Processor Information** ○ Processor Type ○ Core Count ○ Processor ID ○ Current Clock Speed ○ Minimum Clock Speed ○ Maximum Clock Speed ○ Processor L2 Cache ○ Processor L3 Cache ○ HT Capable ○ 64-Bit Technology ● **Device Information** ○ M.2 SATA ○ M.2 SATA1 ○ M.2 PCIe SSD-0 ○ M.2 PCIe SSD-1 ○ Passthrough MAC Address ○ Video Controller ○ Video BIOS Version ○ Video Memory ○ Panel Type ○ Native Resolution ○ Privacy Screen **NOTE:** Applicable for e-Privacy version. ○ Audio Controller ○ Wi-Fi Device ○ Bluetooth Device
Battery Information	Displays the battery status and the type of AC adapter connected to the computer.
Boot Sequence	Allows you to change the order in which the computer attempts to find an operating system. The options are: ● **Windows Boot Manager**—Default ● **Boot List Option:** Allows you to add, delete and, view the boot list options.
Advanced Boot Options	Allows you to Enable Legacy Option ROMs. ● **Enable UEFI Network Stack**—Default

Table 23. General (continued)

Option	Description
UEFI Boot Path Security	Allows you to control whether the system prompts the user to enter the Admin password when booting to a UEFI boot path. Click one of the following options: • **Always, Except Internal HDD**—Default • **Always, Except Internal HDD & PXE** • **Always** • **Never**
Date/Time	Allows you to set the date and time. The change to the system date and time takes effect immediately.

System configuration

Table 24. System Configuration

Option	Description
SATA Operation	Allows you to configure the operating mode of the integrated SATA hard-drive controller. Click one of the following options: • **Disabled** • **AHCI** • **RAID On**—Default **NOTE:** SATA is configured to support RAID mode.
Drives	These fields let you enable or disable various drives on board. The options are: • **SATA-1** • **SATA-2** • **M.2 PCIe SSD-0** • **M.2 PCIe SSD-1**
SMART Reporting	This field controls whether hard drive errors for integrated drives are reported during startup. The option is disabled by default.
USB Configuration	Allows you to enable or disable the internal/integrated USB configuration. The options are: • **Enable USB Boot Support** • **Enable External USB Ports** All the options are set by default. **NOTE:** USB keyboard and mouse always work in the BIOS setup irrespective of these settings.
Dell Type-C Dock Configuration	Allows you to connect to Dell WD and TB family of docks(Type-C Docks) independent of USB and thunderbolt adapter configuration. This option is enabled by default.
Thunderbolt™ Adapter Configuration	Allows you to enable or disable Thunderbolt options:

Table 24. System Configuration (continued)

Option	Description
	• **Thunderbolt (Enabled by Defualt)** • **Enable Thunderbolt Boot Support** • **Enable Thunderbolt (and PCIe behind TBT) Pre-boot** With following security levels : • **No Security** • **User Authentication (Enabled by Defualt)** • **Secure Connect** • **Display Port and USB Only**
Thunderbolt™ Auto Switch	This option configures the method used by the Thunderbolt controller to perform PCIe device enumeration. • **Auto Switch** : The BIOS will automatically switch between BIOS Assist and Native Thunderbolt PC device enumeration modes to get all benefits of the installed OS • **Native Enumeration**: The BIOS will program the Thunderbolt controller to Native mode (Auto Switching is disabled) • **BIOS Assist Enumeration**: The BIOS will program the Thunderbolt controller to BIOS Assist mode (Auto Switching is disabled) **NOTE:** A reboot is required for these changes to take effect.
USB PowerShare	This option enable/disable the USB PowerShare feature behavior. This option is disabled by default.
Audio	Allows you to enable or disable the integrated audio controller. By default, the **Enable Audio** option is selected. The options are: • **Enable Microphone** • **Enable Internal Speaker** This option is set by default.
Keyboard Illumination	This field lets you choose the operating mode of the keyboard illumination feature. • **Disabled**: The Keyboard illumination will always be off or 0%. • **Dim**: Enable the keyboard illumination feature at 50% brightness. • **Bright (Enabled by Defualt)**: Enable the keyboard illumination feature at 100% brightness level. **NOTE:** Option present on system opted with backlit keyboard.
Keyboard Backlight Timeout on AC	This feature defines the timeout value for the keyboard backlight when an AC adapter is plugged into the system. Options are: • **5 seconds** • **10 seconds**(Default) • **15 seconds** • **30 seconds** • **1 minute**

Table 24. System Configuration (continued)

Option	Description
	• **5 minute** • **15 minute** • **Never** **NOTE:** Option present on system opted with backlit keyboard.
Keyboard Backlight Timeout on Battery	This feature defines the timeout value for the keyboard backlight when the system is running only on battery power. Options are: • **5 seconds** • **10 seconds**(Default) • **15 seconds** • **30 seconds** • **1 minute** • **5 minute** • **15 minute** • **Never** **NOTE:** Option present on system opted with backlit keyboard.
Unobtrusive Mode	When enabled, pressing Fn+F7 will turn off all light and sound emission in the system. Press Fn+F7 to resume normal operation. Default is Disabled.
Fingerprint Reader	Enable or disable the Fingerprint Reader or the Fingerprint Reader Device's Single Sign On capability. • **Enable Fingerprint Reader Device**: Enabled by Default **NOTE:** Option present on system opted with finger print reader on the power button.
Miscellaneous devices	Allows you to enable or disable various on board devices. • **Enable Camera**—Default • **Enable Secure Digital (SD) Card** • **Secure Digital (SD) Card Boot** - Disabled • **Secure Digital Card (SD) Read-Only Mode** - Disabled
MAC Address Pass-Through	This feature replaces the external NIC MAC address (in a supported dock or dongle) with the selected MAC address from the system. The options are • **System Unique MAC Address**— Default • **Disabled**

Video screen options

Table 25. Video

Option	Description
LCD Brightness	Allows you to set the display brightness depending upon the power source. On Battery(100% is default) and On AC (100 % is default).

Table 25. Video (continued)

Option	Description
Privacy Screen	This option Enables or Disables the Privacy Screen if the Panel supports this feature. The options are: • **Disabled**: When Disabled the privacy screen is not applied to the embedded display panel. • **Enabled — Default**: When enabled, the privacy screen is applied to the embedded display panel and can be toggled between public mode and privacy mode using the Fn+F9 key combination on the embedded keyboard. • **Always On**: When always on the privacy screen is always on and cannot be turned off by the user. **NOTE:** This option is present if the display supports e-Privacy panel.

Security

Table 26. Security

Option	Description
Admin Password	Allows you to set, change, or delete the administrator(admin) password. The entries to set password are: • **Enter the old password:** • **Enter the new password:** • **Confirm new password:** Click **OK** once you set the password. **NOTE:** For the first time login, "Enter the old password:" field is marked to "Not set". Hence, password has to be set for the first time you log in and then you can change or delete the password.
System Password	Allows you to set, change, or delete the System password. The entries to set password are: • **Enter the old password:** • **Enter the new password:** • **Confirm new password:** Click **OK** once you set the password. **NOTE:** For the first time login, "Enter the old password:" field is marked to "Not set". Hence, password has to be set for the first time you log in and then you can change or delete the password.
Strong Password	Allows you to enforce the option to always set strong password. • **Enable Strong Password** This option is not set by default.
Password Configuration	You can define the length of your password. Min = 4, Max = 32
Password Bypass	Allows you to bypass the System password and the Internal HDD password, when it is set, during a system restart. Click one of the options: • **Disabled**—Default • **Reboot bypass**

Table 26. Security (continued)

Option	Description
Password Change	Allows you to change the System password when the administrator password is set. • **Allow Non-Admin Password Changes** This option is set by default.
UEFI Capsule Firmware Updates	Allows you to update the system BIOS via UEFI capsule update packages. • **Enable UEFI Capsule Firmware Updates** This option is set by default.
HDD Security	This options controls the mechanism used by BIOS to block external Self Encrypting Drives (SED) management software to take ownership of the SED. The options are: • **SED Block SID Authentication** • **PPI Bypass for SED Block SID Command** Both the options are disabled by default. **NOTE:** This option is applicable with laptops shipped with SED
TPM 2.0 Security	Allows you to enable or disable the Trusted Platform Module (TPM) during POST. The options are: • **TPM On**—Default • **Clear** • **PPI Bypass for Enable Command**—Default • **PPI Bypass for Disbale Command** • **PPI Bypass for Clear Command** • **Attestation Enable**—Default • **Key Storage Enable**—Default • **SHA-256**—Default
Absolute®	This field lets you Enable, Disable, or Permanently Disable the BIOS module interface of the optional Absolute Persistence Module service from Absolute® Software. This option is enabled by default.
OROM Keyboard Access	This option determines whether users are able to enter Option ROM Configuration screens via hotkey during boot. Specifically this settings is capable of preventing access to Intel® RAID(Ctrl+I) or Intel® Management Engine BIOS Extension (Ctrl+P/F12). Options are: • **Enable**— Default • **One Time Enable** • **Disable**
Admin Setup Lockout	Allows you to prevent users from entering Setup when an administrator password is set. • **Enable Admin Setup Lockout** This option is not set by default.
Master Password Lockout	Allows you to disable master password support. • **Enable Master Password Lockout** This option is not set by default. **NOTE:** Hard Disk password should be cleared before the settings can be changed.
SMM Security Mitigation	Allows you to enable or disable additional UEFI SMM Security Mitigation protection. • **SMM Security Mitigation**

Table 26. Security (continued)

Option	Description
	This option is not set by default.

Secure boot

Table 27. Secure Boot

Option	Description
Secure Boot Enable	Allows you to enable or disable the Secure Boot Feature. • **Secure Boot Enable**—Default
Secure Boot Mode	Changes to the Secure Boot operation mode modifies the behaviour of Secure Boot to allow evaluation of UEFI driver signatures. Choose one of the option: • **Deployed Mode**—Default • **Audit Mode**
Expert Key Management	Allows you to enable or disable Expert Key Management. • **Enable Custom Mode** This option is not set by default. The Custom Mode Key Management options are: • **PK**—Default • **KEK** • **db** • **dbx**

Intel Software Guard Extensions options

Table 28. Intel Software Guard Extensions

Option	Description
Intel SGX Enable	This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS. Click one of the following options: • **Disabled** • **Enabled** • **Software controlled**—Default
Enclave Memory Size	This option sets **SGX Enclave Reserve Memory Size** Click one of the following options: • **32 MB** • **64 MB** • **128 MB**—Default

Performance

Table 29. Performance

Option	Description
Multi Core Support	This field specifies whether the process has one or all cores enabled. The performance of some applications improves with the additional cores. • **All**—Default • **1** • **2** • **3**
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep mode of processor. • **Enable Intel SpeedStep** This option is set by default.
C-States Control	Allows you to enable or disable the additional processor sleep states. • **C states** This option is set by default.
Intel® TurboBoost™	This option enables or disables the Intel® TurboBoost™ mode of the processor
Hyper-Thread Control	Allows you to enable or disable the HyperThreading in the processor. • **Disabled** • **Enabled**—Default

Power management

Table 30. Power Management

Option	Description
AC Behavior	Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected. • **Wake on AC** This option is not set by default.
Enable Intel Speed Shift technology	This option is used to enable/disable Intel Speed Shift Technology. This option is not set by default.
Auto On Time	Allows you to set the time at which the computer must turn on automatically. The options are: • **Disabled**—Default • **Every Day** • **Weekdays** • **Select Days** This option is not set by default.
USB Wake Support	Allows you to enable USB devices to wake the system from standby.

Table 30. Power Management (continued)

Option	Description
	• **Wake on Dell USB-C Dock** This option is set by default.
Wireless Radio Control	This option if enabled, will sense the connection of the system to a wired network and subsequently disable the selected wireless radios (WLAN and/or WWAN). Upon disconnection from the wired network the selected wireless radio will ne enabled. • **Control WLAN radio** • **Control WWAN radio** Both the options are not set by default.
Block Sleep	This option lets you to block entering to sleep in OS environment. This option is not set by default.
Peak Shift	Allows you enable of disable the Peak shift feature. This feature when enabled minimizes the AC power usage at times of peak demand. Battery doesnot charge between the Peak Shift start and end time Peak Shift Start and End Time can be configured for all weekdays This option set the battery threshold value (15 % to 100 %)
Advanced Battery Charge Configuration	This option enables you to maximize the battery health. By enabling this option, your system uses the standard charging algorithm and other techniques, during the non-work hours to improve the battery health. Advanced Battery Charge Mode can be configured for all weekdays
Primary Battery Charge Configuration	Allows you to select the charging mode for the battery. The options are: • **Adaptive**—Default • **Standard** - Fully charges your battery at a standard rate. • **ExpressCharge™**- The battery charges over a shorter period of time using Dell's fast charging technology. • **Primarily AC use** • **Custom** If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop. **NOTE:** All charging mode may not be available for all the batteries.

Post behavior

Table 31. POST Behavior

Option	Description
Adapter Warnings	Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters. • **Enable Adapter Warnings**—Default
Keyboard Embeded	This option lets you choose one of two methods to enable the keypad that is embedded in the internal keyboard. The options are: • **Fn Key Only** • **By Numlock**
Numlock Enable	Allows you to enable or disable the Numlock function when the system boots.

Table 31. POST Behavior (continued)

Option	Description
	• **Enable Numlock**—Default
Fn Lock Options	Allows you to let hot key combinations Fn + Esc toggle the primary behavior of F1–F12, between their standard and secondary functions. If you disable this option, you cannot toggle dynamically the primary behavior of these keys. • **Fn Lock**—Default Click one of the following options: • **Lock Mode Disable/Standard** • **Lock Mode Enable/Secondary**—Default
Fastboot	Allows you to speed up the boot process by bypassing some of the compatibility steps. Click one of the following options: • **Minimal**—Default • **Thorough** • **Auto**
Extended BIOS POST Time	Allows you to create an additional preboot delay. Click one of the following options: • **0 seconds**—Default • **5 seconds** • **10 seconds**
Full Screen Logo	Allows you to display full screen logo, if your image matches screen resolution. • **Enable Full Screen Logo** This option is not set by default.
Warnings and Errors	Allows you to select different options to either stop, prompt and wait for user input, continue when warnings are detected but pause on errors, or continue when either warnings or errors are detected during the POST process. Click one of the following options: • **Prompt on Warnings and Errors**—Default • **Continue on Warnings** • **Continue on Warnings and Errors**

Manageability

NOTE: This option is present if the system has Intel V-Pro enabled.

Table 32. Manageability

Option	Description
Intel AMT Capability	This option allows to enable and disable the Intel AMT Capabilities of the system. The options are: • **Disabled** • **Enabled** • **Restrict MEBx Access**
USB Provision	When enabled Intel AMT can be provisioned using the local provisioning file via a USB storage device. This option is disabled by default.

Table 32. Manageability (continued)

Option	Description
MEBx Hotkey	This option specifies whether the MEBx Hotkey function should be enabled when the system boots.

Virtualization support

Table 33. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by the Intel Virtualization technology. • **Enable Intel Virtualization Technology** This option is set by default.
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by the Intel Virtualization technology for direct I/O. • **Enable VT for Direct I/O** This option is set by default.
Trusted Execution	This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel® Trusted Execution Technology. **NOTE:** The TPM has to be enabled and activated and Virtualization Technology and VT for Direct I/O must be enabled to use this feature.

Wireless options

Table 34. Wireless

Option	Description
Wireless Device Enabled	Allows to set the wireless devices that can be controlled by the wireless switch. The options are: • **WWAN / GPS** • **WLAN** • **Bluetooth®** All the options are enabled by default.

Maintenance

Table 35. Maintenance

Option	Description
Service Tag	Displays the service tag of your computer.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.
BIOS Downgrade	Allows you to flash previous revisions of the system firmware.

Table 35. Maintenance (continued)

Option	Description
	• **Allow BIOS Downgrade** This option is set by default.
Data Wipe	Allows you to securely erase data from all internal storage devices. • **Wipe on Next Boot** This option is not set by default.
Bios Recovery	**BIOS Recovery from Hard Drive**—This option is set by default. Allows you to recover the corrupted BIOS from a recovery file on the HDD or an external USB key. **BIOS Auto-Recovery**— Allows you to recover the BIOS automatically. **NOTE: BIOS Recovery from Hard Drive** field should be enabled. **Always Perform Integrity Check**—Performs integrity check on every boot.

System logs

Table 36. System Logs

Option	Description
BIOS events	Allows you to view and clear the System Setup (BIOS) POST events.
Thermal Events	Allows you to view and clear the System Setup (Thermal) events.
Power Events	Allows you to view and clear the System Setup (Power) events.

Updating the BIOS

Updating the BIOS in Windows

CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress and the system will ask for this on each reboot. If the recovery key is not known this can result in data loss or an unnecessary operating system re-install. For more information on this subject, see Knowledge Article: https://www.dell.com/support/article/sln153694

1. Go to www.dell.com/support.
2. Click **Product support**. In the **Search support** box, enter the Service Tag of your computer, and then click **Search**.
   NOTE: If you do not have the Service Tag, use the SupportAssist feature to automatically identify your computer. You can also use the product ID or manually browse for your computer model.
3. Click **Drivers & Downloads**. Expand **Find drivers**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. After the download is complete, browse the folder where you saved the BIOS update file.
8. Double-click the BIOS update file icon and follow the on-screen instructions.
   For more information, see knowledge base article 000124211 at www.dell.com/support.

Updating the BIOS in Linux and Ubuntu

To update the system BIOS on a computer that is installed with Linux or Ubuntu, see the knowledge base article 000131486 at www.dell.com/support.

Updating the BIOS using the USB drive in Windows

CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress and the system will ask for this on each reboot. If the recovery key is not known this can result in data loss or an unnecessary operating system re-install. For more information on this subject, see Knowledge Article: https://www.dell.com/support/article/sln153694

1. Follow the procedure from step 1 to step 6 in Updating the BIOS in Windows to download the latest BIOS setup program file.
2. Create a bootable USB drive. For more information, see the knowledge base article 000145519 at www.dell.com/support.
3. Copy the BIOS setup program file to the bootable USB drive.
4. Connect the bootable USB drive to the computer that needs the BIOS update.
5. Restart the computer and press **F12** .
6. Select the USB drive from the **One Time Boot Menu**.
7. Type the BIOS setup program filename and press **Enter**.
   The **BIOS Update Utility** appears.
8. Follow the on-screen instructions to complete the BIOS update.

Updating the BIOS from the F12 One-Time boot menu

Update your computer BIOS using the BIOS update.exe file that is copied to a FAT32 USB drive and booting from the F12 One-Time boot menu.

CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress and the system will ask for this on each reboot. If the recovery key is not known this can result in data loss or an unnecessary operating system re-install. For more information on this subject, see Knowledge Article: https://www.dell.com/support/article/sln153694

BIOS Update

You can run the BIOS update file from Windows using a bootable USB drive or you can also update the BIOS from the F12 One-Time boot menu on the computer.

Most of the Dell computers built after 2012 have this capability, and you can confirm by booting your computer to the F12 One-Time Boot Menu to see if BIOS FLASH UPDATE is listed as a boot option for your computer. If the option is listed, then the BIOS supports this BIOS update option.

NOTE: Only computers with BIOS Flash Update option in the F12 One-Time boot menu can use this function.

Updating from the One-Time boot menu

To update your BIOS from the F12 One-Time boot menu, you need the following:

- USB drive formatted to the FAT32 file system (key does not have to be bootable)
- BIOS executable file that you downloaded from the Dell Support website and copied to the root of the USB drive
- AC power adapter that is connected to the computer
- Functional computer battery to flash the BIOS

Perform the following steps to perform the BIOS update flash process from the F12 menu:

CAUTION: Do not turn off the computer during the BIOS update process. The computer may not boot if you turn off your computer.

1. From a turn off state, insert the USB drive where you copied the flash into a USB port of the computer.

2. Turn on the computer and press F12 to access the One-Time Boot Menu, select BIOS Update using the mouse or arrow keys then press Enter.
   The flash BIOS menu is displayed.
3. Click **Flash from file**.
4. Select external USB device.
5. Select the file and double-click the flash target file, and then click **Submit**.
6. Click **Update BIOS**. The computer restarts to flash the BIOS.
7. The computer will restart after the BIOS update is completed.

System and setup password

Table 37. System and setup password

Password type	Description
System password	Password that you must enter to log in to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

You can create a system password and a setup password to secure your computer.

CAUTION: The password features provide a basic level of security for the data on your computer.

CAUTION: Anyone can access the data that is stored on your computer if it is not locked and left unattended.

NOTE: System and setup password feature is disabled.

Assigning a system setup password

You can assign a new **System or Admin Password** only when the status is in **Not Set**.

To enter the system setup, press F12 immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
   The **Security** screen is displayed.
2. Select **System/Admin Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to assign the system password:
   - A password can have up to 32 characters.
   - At least one special character: ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
   - Numbers 0 through 9.
   - Upper case letters from A to Z.
   - Lower case letters from a to z.
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. Press Esc and save the changes as prompted by the pop-up message.
5. Press Y to save the changes.
   The computer restarts.

Deleting or changing an existing system setup password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.

To enter the System Setup, press F12 immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.
   The **System Security** screen is displayed.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.

3. Select **System Password**, update, or delete the existing system password, and press Enter or Tab.
4. Select **Setup Password**, update, or delete the existing setup password, and press Enter or Tab.

   NOTE: If you change the System and/or Setup password, reenter the new password when prompted. If you delete the System and/or Setup password, confirm the deletion when prompted.

5. Press Esc and a message prompts you to save the changes.
6. Press Y to save the changes and exit from System Setup.
   The computer restarts.

Clearing BIOS (System Setup) and System passwords

To clear the system or BIOS passwords, contact Dell technical support as described at www.dell.com/contactdell.

NOTE: For information on how to reset Windows or application passwords, refer to the documentation accompanying Windows or your application.

6

Software

This chapter details the supported operating systems along with instructions on how to install the drivers.

Topics:

Downloading drivers

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

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

4. Click **Drivers and Downloads**.
5. Select the operating system installed on your notebook.
6. Scroll down the page and select the driver to install.
7. Click **Download File** to download the driver for your notebook.
8. After the download is complete, navigate to the folder where you saved the driver file.
9. Double-click the driver file icon and follow the instructions on the screen.

7

Getting help

Topics:

- Contacting Dell

Contacting Dell

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

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to **Dell.com/support.**
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.