

Dell Latitude 3301

Setup and specifications 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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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 Windows system setup.

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.

- 3 Locate and use Dell apps from the Windows Start menu—Recommended

Table 1. Locate Dell apps

Dell apps	Details
	<p>Dell Product Registration</p> <p>Register your computer with Dell.</p>
	<p>Dell Help & Support</p>

Access help and support for your computer.



SupportAssist

Proactively checks the health of your computer's hardware and software.



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 preinstalled on your computer.

- 4 Create recovery drive for Windows.



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

For more information, see [Create a USB recovery drive for Windows](#).

Create a USB recovery drive for Windows

Create a recovery drive to troubleshoot and fix problems that may occur with Windows. An empty USB flash drive with a minimum capacity of 16 GB is required to create the recovery drive.

NOTE: This process may take up to an hour to complete.

NOTE: The following steps may vary depending on the version of Windows installed. Refer to the [Microsoft support site](#) for latest instructions.

- 1 Connect the USB flash drive to your computer.
- 2 In Windows search, type *Recovery*.
- 3 In the search results, click **Create a recovery drive**.
The **User Account Control** window is displayed.
- 4 Click **Yes** to continue.
The **Recovery Drive** window is displayed.
- 5 Select **Back up system files to the recovery drive** and click **Next**.
- 6 Select the **USB flash drive** and click **Next**.
A message appears, indicating that all data in the USB flash drive will be deleted.
- 7 Click **Create**.
- 8 Click **Finish**.

For more information about reinstalling Windows using the USB recovery drive, see the *Troubleshooting* section of your product's *Service Manual* at www.dell.com/support/manuals.

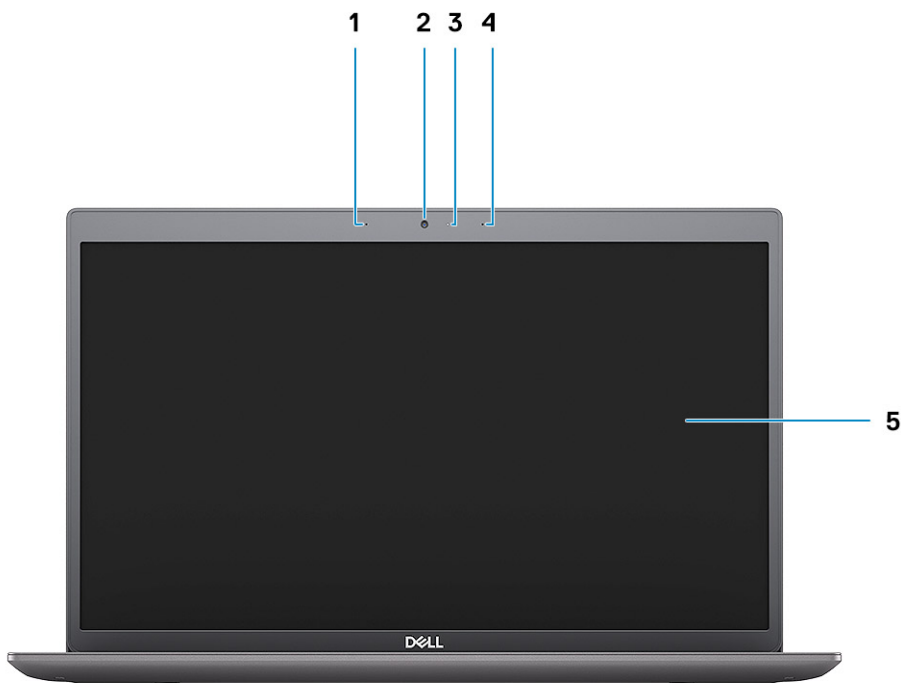
Chassis

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

Topics:

- [Display view](#)
- [Left view](#)
- [Right view](#)
- [Palmrest view](#)
- [Bottom view](#)
- [Keyboard shortcuts](#)

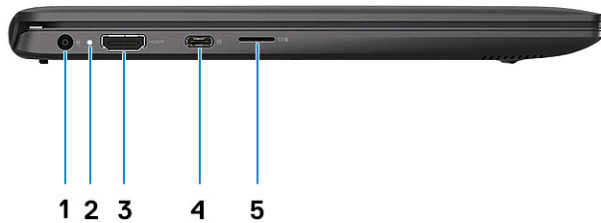
Display view



- 1 Left microphone
- 3 Camera-status light
- 5 LCD panel

- 2 Camera
- 4 Right microphone

Left view



- 1 Power connector port
- 3 HDMI port
- 5 microSD card slot

- 2 Status light
- 4 USB 3.1 Gen1 Type-C port with Display port 1.4

Right view



- 1 SIM card slot
- 3 USB 3.1 Gen 1 port

- 2 Headset port

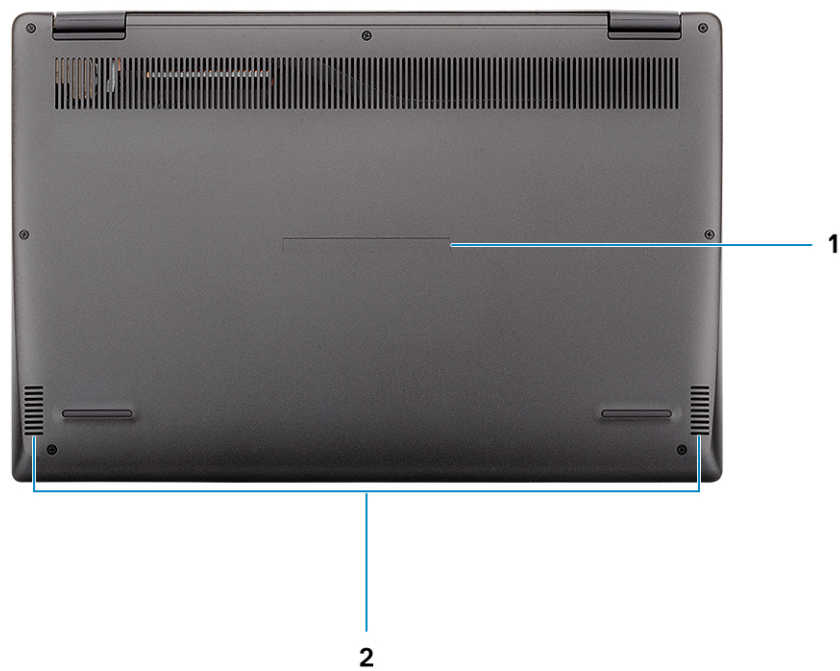
Palmrest view



- 1 Power button with optional fingerprint reader
- 3 Touchpad

- 2 Keyboard

Bottom view



- 1 Service Tag label
- 2 Speakers

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	Description
Fn + Esc	Toggle Fn-key lock
Fn + F1	Mute audio
Fn + F2	Decrease volume
Fn + F3	Increase volume
Fn + F4	Play / Pause
Fn + F5	Turn on/off keyboard backlight

Keys	Description
Fn + F6	Decrease brightness
Fn + F7	Increase brightness
Fn + F8	Switch to external display
Fn + F10	Print screen
Fn + F11	Home
Fn + 12	End
Fn + Ctrl	Open application menu

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.

System information

Table 3. System information

Feature	Specifications
Chipset	Integrated in the processor
DRAM bus width	64-bit
FLASH EPROM	16 MB
PCIe bus	Up to Gen3
External bus frequency	Up to 8 GT/s

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 Gen Intel Core i7-8665U processor (8 MB cache, 4 core count/ 8 threads, Up to 4.6 GHz, 15 W TDP)	Intel UHD Graphics 620
8th Gen Intel Core i5-8265U processor (6 MB cache, 4 core count/ 8 threads, Up to 3.9 GHz, 15 W TDP)	Intel UHD Graphics 620
8th Gen Intel Core i3-8145U processor (4 MB cache, 2 core count/ 4 threads, Up to 3.5 GHz, 15 W TDP)	Intel UHD Graphics 620

Memory

Table 5. Memory specifications

Feature	Specifications
Minimum memory configuration	4 GB
Maximum memory configuration	16 GB

Feature	Specifications
Number of slots	Solder down
Memory options	<ul style="list-style-type: none"> • 4 GB (1 x 4 GB) • 8 GB (2 x 4 GB) • 8 GB (1 x 8 GB) • 16 GB (2 x 8 GB)
Type	LPDDR3
Speed	2133Mhz

Storage

Table 6. Storage specifications

Type	Form factor	Interface	Capacity
SATA Solid-State Drive	M.2 2280 SSD	<ul style="list-style-type: none"> • Class 20/35 SATA • Class 20 SATA (Brazil only) • Class 40 (Intel Neptune Harbor) 	Upto 512 GB

System board connectors

Table 7. System board connectors

Feature	Specifications
M.2 Connectors	<ul style="list-style-type: none"> • One M.2 2230 hybrid Key-E connector • One M.2 2280 Key-M connector • One M.2 3042 Key-B connector • One M.2 2230 Key-E connector • One M.2 2280 Key-E connector • One M.2 3042 Key-B connector

Media card-reader

Table 8. Media-card reader specifications

Feature	Specifications
Type	MicroSD-card slot Smart card reader slot (optional)
Supported cards	<ul style="list-style-type: none"> • Smart card reader (optional) • MicroSD

Security options—Contacted smartcard reader

Table 9. Contacted smartcard reader

Title	Description	Dell ControlVault 3 Smartcard reader
ISO 7816 -3 Class A Card Support	Reader capable of reading 5V powered smartcard	Yes
ISO 7816 -3 Class B Card Support	Reader capable of reading 3V powered smartcard	Yes
ISO 7816 -3 Class C Card support	Reader capable of reading 1.8V powered smartcard	Yes
ISO 7816-1 Compliant	Specification for the reader	Yes
ISO 7816 -2 Compliant	Specification for smartcard device physical characteristics (size, location of connection points, etc.)	Yes
T=0 support	Cards support character level transmission	Yes
T=1 support	Cards support block level transmission	Yes
EMVCo Compliant	Compliant with EMVCo (for electronic payment standards) smartcard standards as posted to www.emvco.com	Yes
EMVCo Certified	Formally certified based on EMVCO smartcard standards	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers.	Yes
Windows Certified	Device certified by Microsoft WHCK	Yes
FIPS 201 (PIV/HSPD-12) Compliant via GSA	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes

Security options—Contactless smartcard reader

Table 10. Contactless smartcard reader

Title	Description	Dell ControlVault 3 Contactless Smartcard reader with NFC
Felica Card Support	Reader and software capable of supporting Felica contactless cards	Yes
Prox (Proximity) (125kHz) Card support	Reader and software capable of supporting Prox/Proximity/125kHz contactless cards	No
ISO 14443 Type A Card Support	Reader and software capable of supporting ISO 14443 Type A contactless cards	Yes

Title	Description	Dell ControlVault 3 Contactless Smartcard reader with NFC
ISO 14443 Type B Card Support	Reader and software capable of supporting ISO 14443 Type B contactless cards	Yes
ISO/IEC 21481	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO/IEC 18092	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO 15693 Card Support	Reader and software capable of supporting ISO15693 contactless cards	Yes
NFC Tag Support	Supports reading and processing of NFC compliant tag information	Yes
NFC Reader Mode	Support for NFC Forum Defined Reader mode	Yes
NFC Writer Mode	Support for NFC Forum Defined Writer mode	Yes
NFC Peer-to-Peer Mode	Support for NFC Forum Defined Peer to Peer mode	Yes
EMVCo Compliant	Compliant with EMVCO smartcard standards as posted to www.emvco.com	Yes
EMVCo Certified	Formally certified based on EMVCO smartcard standards	Yes
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for OS to utilize	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers	Yes
Windows Certified	Device certified by Microsoft WHCK	Yes
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes

NOTE: 125 Khz proximity cards are not supported.

Table 11. Supported cards

Manufacturer	Card	Supported
HID	jCOP readertest3 A card (14443a)	Yes
	1430 1L	
	DESFire D8H	
	iClass (Legacy)	

Manufacturer	Card	Supported
NXP/Mifare	iClass SEOS	Yes
	Mifare DESFire 8K White PVC Cards	
	Mifare Classic 1K White PVC Cards	
G&D	NXP Mifare Classic S50 ISO Card	Yes
	idOnDemand - SCE3.2 144K	
	SCE6.0 FIPS 80K Dual+ 1 K Mifare	
	SCE6.0 nonFIPS 80K Dual+ 1 K Mifare	
	SCE6.0 FIPS 144K Dual + 1K Mifare	
Oberthur	SCE6.0 nonFIPS 144K Dual + 1 K Mifare	Yes
	SCE7.0 FIPS 144K	
	idOnDemand - OCS5.2 80K	
	ID-One Cosmo 64 RSA D V5.4 T=0 card	

Audio

Table 12. Audio specifications

Feature	Specifications
Controller	Realtek ALC3204 with Waves MaxxAudio Pro
Stereo conversion	24-bit DAC (Digital-to-Analog) and ADC (Analog-to-Digital)
Type	HD Audio
Speakers	Two
Interface	Internal: <ul style="list-style-type: none"> Intel HDA (high-definition audio) External: <ul style="list-style-type: none"> 7.1 channel output via HDMI Digital microphone input on camera module Headset combo jack (stereo headphones/microphone-in)
Internal speaker amplifier	Integrated in ALC3204 (Class-D 2 W)
External volume controls	Media-control shortcut keys
Speaker output:	Average: 2 W Peak: 2.5 W
Microphone	Digital-array microphones

Video card

Table 13. Video card specifications

Controller	Type	CPU Dependency	Graphics memory type	Capacity	Maximum resolution
NVIDIA M250	Discrete	<ul style="list-style-type: none">Intel Core i7-8665U CPUIntel Core i7-8565U CPUIntel Core i5-8365U CPUIntel Core i5-8265U CPU	GDDR5	2 GB	1920 x 1200@60 Hz

Camera

Table 14. Camera specifications

Feature	Specifications
Camera Type	RGB HD camera
Resolution	Still image: 0.92 megapixel Video: 1280 x 720 (HD) at 30 fps
Diagonal viewing angle	74.9 degrees
Sensor type	CMOS sensor technology

Communication

Table 15. Communication specifications

Feature	Specifications
Network adapter	Integrated Connection I219-LM 10/100/1000 Mb/s Ethernet (RJ-45)

Wireless

Table 16. Wireless specifications

Specifications
Intel Dual Band Wireless AC 9560 (802.11ac) 2x2 + Bluetooth 5.0 (Optional)
Intel Dual Band Wireless AC 9462 (802.11ac) 1x1 + Bluetooth 5.0 (Optional)
Qualcomm QCA9565, DW1707 802.11bgn

Specifications

Qualcomm QCA9377 802.11ac Dual Band (1x1) Wireless Adapter+ Bluetooth 4.1

Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1

Ports and connectors

Table 17. Ports and connectors

Feature	Specifications
Memory card reader	One MicroSD-card slot
SIM card reader	One micro SIM card slot
USB	<ul style="list-style-type: none">One USB 3.1 Gen1 portOne USB 3.1 Gen1 (Type-C) port/DisplayPort
Security	Noble wedge lock slot
Audio	One headset (headphone and microphone combo) port
Video	One HDMI 1.4b port

Display

Table 18. Display specifications

Feature	Specifications
Type	Full High Definition (FHD)
Height (Active area)	165.24 mm (6.5 in)
Width (Active area)	293.76 mm (11.6 in)
Diagonal	337.04 mm (13.3 in)
Pixels Per Inch (PPI)	166
Contrast ratio	400:1
Luminance/Brightness (typical)	300 nits
Refresh rate	60 Hz
Horizontal viewing angle (min)	+/- 80 degrees
Vertical viewing angle (min)	+/- 80 degrees
Power consumption (max)	4.6 W

Keyboard

Table 19. Keyboard specifications

Feature	Specifications
Number of keys	<ul style="list-style-type: none">• United states and Canada : 81 keys• United Kingdom : 82 Keys• Japan : 85 keys
Size	<ul style="list-style-type: none">• X= 18.70 mm key pitch• Y= 18.05 mm key pitch
Backlit keyboard	Optional (backlit and Non-backlit)
Layout	QWERTY

Touchpad

Table 20. Touchpad specifications

Feature	Specifications
Resolution	1920 x 1080
Dimensions	<ul style="list-style-type: none">• Width : 105 mm (4.13 in.)• Height : 65 mm (2.56 in.)

Table 21. Supported gestures

Supported gestures	Windows 10
Cursor moving	Supported
Clicking/ tapping	Supported
Click and drag	Supported
2-finger scroll	Supported
2-finger Pinch/ Zoom	Supported
2-finger tap (Right Clicking)	Supported
3-finger tap (Invoke Cortana)	Supported
3-finger swipe up (See all open windows)	Supported
3-finger swipe down (Show the desktop)	Supported
3-finger swipe right or left (Switch between open windows)	Supported
4-finger tap (Invoke Action Center)	Supported
4-finger swipe right or left (Switch virtual desktops)	Supported

Fingerprint reader—optional

Table 22. Fingerprint reader specifications

Feature	Specifications
Type	FPR in power button
Sensor technology	Capacitive
Sensor resolution	500 ppi dpi
Sensor area	4.06 mm x 3.25 mm

Operating system

Table 23. Operating system

Feature	Specifications
Operating systems supported	<ul style="list-style-type: none">Windows 10 Home (64 bit)Windows 10 Professional (64bit)Ubuntu

Battery

Table 24. Battery

Feature	Specifications	
Type	4-cell "smart" lithium-ion	
Dimension	Width	98.8 mm (3.89 in)
	Depth	4.3 mm (0.169 in)
	Height	257.85 mm (10.15 in)
Weight (maximum)	0.22 kg (0.485 lb)	
Voltage	7.60 VDC	
Life span	300 discharge/charge cycles	
Charging time when the computer is off (approximate)	4 hours	
Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	
Temperature range: Operating	0°C to 35°C (32°F to 95°F)	
Temperature range: Storage	-40°C to 65°C (-40°F to 149°F)	

Feature	Specifications
Coin-cell battery	CR-2032

Power adapter

Table 25. Power adapter specifications

Feature	Specifications
Type	E65W
Input Voltage	100 VAC - 240 VAC
Input current (maximum)	1.6 A
Adapter size	Dimensions In Inches: 1.1 x 1.9 x 4.3 In mm: 28 x 47 x 108
Weight	0.29 kg (0.64 lbs)
Input frequency	50 Hz to 60 Hz
Output current	3.34 A (continuous)
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)

Sensor and control specifications

Table 26. Sensor and control specifications

Specifications
1. Free fall sensor on motherboard
2. Hall Effect Sensor

Dimensions and weight

Table 27. Dimensions and weight

Feature	Specifications	
Height	Front	<ul style="list-style-type: none">• 16.80 mm (0.66 in.)
	Rear	<ul style="list-style-type: none">• 14.90 mm (0.59 in.)
		<ul style="list-style-type: none">• Wireless Wide Area Network (WWAN) – 18.50 mm (0.73 in.)

Feature	Specifications
	<ul style="list-style-type: none"> 16.50 mm (0.65 in.)
Width	307.60 mm (12.11 in.)
Depth	204.50 mm (8.05 in.)
Weight	<ul style="list-style-type: none"> Wireless Wide Area Network (WWAN) – 1.20 kg (2.65 lb) 1.18 kg (2.60 lb)

Computer environment

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

Table 28. Computer environment

	Operating	Storage
Temperature range	0°C to 35°C (32°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	10% to 95% (non-condensing)
Vibration (maximum)	0.66 GRMS	1.30 GRMS
Shock (maximum)	110 G†	160 G‡
Altitude (maximum)	-15.2 m to 3048 m (-50 ft to 10,000 ft)	N/A

* 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.

Security

Table 29. Security

Feature	Specifications
Trusted Platform Module (TPM) 2.0	Integrated on the system board
Firmware TPM	Optional
Windows Hello Support	Yes, optional fingerprint on power button Optional IR camera
Dell Smartcard Keyboard	Optional
FIPS 140-2 certification for TPM	Yes
ControlVault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification	Yes, for FPR, SC and CSC/NFC

Feature	Specifications
Fingerprint Reader Only	Touch Fingerprint reader in power button tied to Control vault 3
Contacted Smart Card and Control Vault 3	FIPS 201 Smart card reader certification/SIPR

Security Software

Table 30. Security Software specifications

Specifications
Dell Client Command Suite
Optional Dell Data Security and Management Software
<ul style="list-style-type: none"> • Dell Endpoint Security Suite Enterprise • Dell Data Guardian • Dell Encryption Enterprise • Dell Encryption Personal • Dell Threat Defense • MozyPro or MozyEnterprise • RSA NetWitness Endpoint • RSA SecurID Access • VMware Workspace ONE • Absolute Endpoint Visibility and Control

Software

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

Downloading Windows drivers

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

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

- 4 Click **Drivers and Downloads**.
- 5 Select the operating system installed on your tabletdesktopnotebook.
- 6 Scroll down the page and select the driver to install.
- 7 Click **Download File** to download the driver for your tabletdesktopnotebook.
- 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.

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:

- [Boot menu](#)
- [Navigation keys](#)
- [Boot Sequence](#)
- [System setup options](#)
- [Updating the BIOS in Windows](#)
- [System and setup password](#)

Boot menu

Press <F12> when the Dell logo appears to initiate a one-time boot menu with a list of the valid boot devices for the system. Diagnostics and BIOS Setup options are also included in this menu. The devices listed on the boot menu depend on the bootable devices in the system. This menu is useful when you are attempting to boot to a particular device or to bring up the diagnostics for the system. Using the boot menu does not make any changes to the boot order stored in the BIOS.

The options are:

- UEFI Boot:
 - Windows Boot Manager
-
- Other Options:
 - BIOS Setup
 - BIOS Flash Update
 - Diagnostics
 - Change Boot Mode Settings

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.

Keys	Navigation
Up arrow	Moves to the previous field.

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

Boot Sequence

Boot Sequence allows you to bypass the System Setup–defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:

- Access System Setup by pressing F2 key
- Bring up the one-time boot menu by pressing F12 key

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

 **NOTE:** XXX denotes the SATA drive number.

- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

 **NOTE:** Choosing Diagnostics, will display the ePSA diagnostics screen.

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

System setup options

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

System setup options

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

General options

Table 31. General

Option	Description
System Information	<p>Displays the following information:</p> <ul style="list-style-type: none"> • System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, Express Service Code and the Signed Firmware Update. • Battery Information: Displays the battery status health and whether the AC adapter is installed. • Processor Information: Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, Microcode Version, HT Capable, and 64-Bit Technology.

Option	Description
	<ul style="list-style-type: none"> Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channel Mode, Memory Technology Device Information: Displays Pass Through MAC Address, Video Controller, Video BIOS Version, Video Memory, Panel type, Native Resolution, Audio Controller, Wi-Fi Device, Cellular Device and Bluetooth Device.
Boot Sequence	Allows you to specify the order in which the computer attempts to find an operating system from the devices specified in this list.
Advanced Boot Options	<p>Allows you to select the Legacy Option ROMs option, when in UEFI boot mode. By default, no option is selected.</p> <ul style="list-style-type: none"> Enable Legacy Option ROMs Enable Attempt Legacy Boot
UEFI Boot Path Security	<p>This option controls whether or not the system will prompt the user to enter the Admin password when booting a UEFI boot path from the F12 Boot Menu.</p> <ul style="list-style-type: none"> Always, Except Internal HDD—Default Always Never

System information

Table 32. System Configuration

Option	Description
Date/Time	Allows you to set the date and time settings. Changes to the system date and time take effect immediately.
Smart Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. The Enable Smart Reporting option is disabled by default.
Audio	<p>Allows you to enable or disable the integrated audio controller. The option Enable Audio is selected by default.</p> <ul style="list-style-type: none"> Enable Microphone Enable Internal Speaker <p>Both the options are selected by default.</p>
USB Configuration	<p>Allows you to enable or disable the integrated USB controller for:</p> <ul style="list-style-type: none"> Enable USB Boot Support Enable External USB Port <p>All the options are enabled by default.</p>
SATA Operation	<p>Allows you to configure the operating mode of the integrated hard drive controller.</p> <ul style="list-style-type: none"> Disabled = The SATA controllers are hidden AHCI = SATA is configured for AHCI mode RAID ON = SATA is configured to support RAID mode (selected by default)
Drives	Allows you to enable or disable the various drives on-board:

Option	Description
	<ul style="list-style-type: none"> • M.2 PCIe SSD-0/SATA-0 (enabled by default) • M.2 PCIe SSD-1/SATA-1 (enabled by default)
Miscellaneous Devices	<p>Allows you to enable or disable the following devices:</p> <ul style="list-style-type: none"> • Enable Camera (enabled by default) • Enable Secure Digital (SD) Card (enabled by default) • Secure Digital (SD) Card Boot
Keyboard Illumination	<p>Allows you to change the keyboard illumination settings:</p> <ul style="list-style-type: none"> • Disabled • Dim • Bright (enabled by default)
Keyboard Backlight Timeout on AC	<p>Allows you to set the timeout value for the keyboard backlight when an AC adaptor is plugged into the system:</p> <ul style="list-style-type: none"> • 5 seconds • 10 seconds (enabled by default) • 15 seconds • 30 seconds • 1 minute • 5 minutes • 15 minutes • Never
Keyboard Backlight Timeout on Battery	<p>Allows you to set the timeout value for the keyboard backlight when the system is running only on battery power:</p> <ul style="list-style-type: none"> • 5 seconds • 10 seconds (enabled by default) • 15 seconds • 30 seconds • 1 minute • 5 minutes • 15 minutes • Never
Dell Type-C Dock Configuration	Always Allow Dell Docks (enabled by default)

Video

Option	Description
LCD Brightness	Allows you to set the display brightness depending up on the power source—On Battery and On AC. The LCD brightness is independent for battery and AC adapter. It can be set using the slider.
EcoPower (enabled by default)	

 **NOTE:** The video setting is visible only when a video card is installed into the system.

Security

Table 33. Security

Option	Description
Enable Admin Setup Lockout	OFF (enabled by default)
Password Bypass	<p>This option lets you bypass the System (Boot) Password and the internal HDD password prompts during a system restart.</p> <ul style="list-style-type: none">• Disabled — Always prompt for the system and internal HDD password when they are set. This option is enabled by default.• Reboot Bypass — Bypass the password prompts on Restarts (warm boots). <p>NOTE: The system will always prompt for the system and internal HDD passwords when powered on from the off state (a cold boot). Also, the system will always prompt for passwords on any module bay HDDs that may be present.</p>
Non-Admin Password Change	<p>This option lets you determine whether changes to the System and Hard Disk passwords are permitted when an administrator password is set.</p> <p>Allow Non-Admin Password Changes - This option is enabled by default.</p>
Non-Admin Setup Changes	Determines whether changes to the setup option are permitted when an administrator password is set.
UEFI Capsule Firmware Updates	This option controls whether this system allows BIOS updates via UEFI capsule update packages. This option is selected by default. Disabling this option will block BIOS updates from services such as Microsoft Windows Update and Linux Vendor Firmware Service (LVFS)
Computrace(R)	<p>This field lets you Activate or Disable the BIOS module interface of the optional Computrace Service from Absolute Software. Enables or disables the optional Computrace service designed for asset management.</p> <ul style="list-style-type: none">• Deactivate Computrace - This option is selected by default.• Activate Computrace• Disable Computrace
TPM 2.0 Security	<p>Allows you to control whether the Trusted Platform Module (TPM) is visible to the operating system.</p> <ul style="list-style-type: none">• TPM On (default)• PPI Bypass for Enable Commands (default)• PPI Bypass for Disable Commands• PPI Bypass for Clear Commands• Attestation Enable (default)• Key Storage Enable (default)• SHA-256 (default)• TPM Enabled(default)
Intel SGX	<p>Software Guard Extensions (SGX) provide a secured environment for running code/storing sensitive information in the context of the main OS.</p> <p>Software Control(enabled by default)</p>
SMM Security Mitigation	Allows you to enable or disable additional UEFI SMM Security Mitigation protections. This option is not set by default.

Passwords

Table 34. Passwords

Option	Description
Enable Strong Passwords	Enforces stricter rules for admin and system passwords.
Password Configuration	Allows you to set the minimum and maximum number of characters allowed for admin and system passwords.
Admin Password	Allows you to set, change or delete the administrator password.
System Password	Allows you to reset the system password.
Enable Master Password Lockout	Disabled (default)

Secure boot

Table 35. Secure Boot

Option	Description
Enable Secure Boot	<p>Allows you to enable or disable Secure Boot feature</p> <ul style="list-style-type: none">Secure Boot Enable <p>This option is selected by default.</p>
Secure Boot Mode	<p>Allows you to modify the behavior of Secure Boot to allow evaluation or enforcement of UEFI driver signatures.</p> <ul style="list-style-type: none">Deployed Mode (default)Audit Mode
Expert key Management	<p>Allows you to manipulate the security key databases only if the system is in Custom Mode. The Enable Custom Mode option is disabled by default. The options are:</p> <ul style="list-style-type: none">PK (default)KEKdbdbx <p>If you enable the Custom Mode, the relevant options for PK, KEK, db, and dbx appear. The options are:</p> <ul style="list-style-type: none">Save to File- Saves the key to a user-selected fileReplace from File- Replaces the current key with a key from a user-selected fileAppend from File- Adds a key to the current database from a user-selected fileDelete- Deletes the selected keyReset All Keys- Resets to default settingDelete All Keys- Deletes all the keys <p>NOTE: If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.</p>

Intel Software Guard Extensions

Table 36. Intel Software Guard Extensions

Option	Description
Intel SGX Enable	<p>This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none">• Disabled• Enabled• Software controlled—Default
Enclave Memory Size	<p>This option sets SGX Enclave Reserve Memory Size</p> <p>Click one of the following options:</p> <ul style="list-style-type: none">• 32 MB• 64 MB• 128 MB—Default


Performance

Table 37. Performance

Option	Description
Hyper-Threading Technology	<p>Allows you to enable or disable the HyperThreading in the processor.</p> <ul style="list-style-type: none">• Disabled• Enabled—Default
Intel SpeedStep	<p>Allows you to enable or disable the Intel SpeedStep mode of processor.</p> <ul style="list-style-type: none">• Enable Intel SpeedStep <p>This option is set by default.</p>
Intel TurboBoost	<p>Allows you to enable or disable the Intel TurboBoost mode of the processor.</p> <ul style="list-style-type: none">• Enable Intel TurboBoost <p>This option is set by default.</p>
Multi Core Support	<p>This field specifies whether the process has one or all cores enabled. The performance of some applications improves with the additional cores.</p> <ul style="list-style-type: none">• All—Default• 1

Option	Description
C-States Control	<p>Allows you to enable or disable the additional processor sleep states.</p> <ul style="list-style-type: none"> • C states <p>This option is set by default.</p>

Power management

Option	Description
AC Behavior	<p>Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected.</p> <p>Default setting: Wake on AC is not selected.</p>
Auto On Time	<p>Allows you to set the time at which the computer must turn on automatically. The options are:</p> <ul style="list-style-type: none"> • Disabled • Every Day • Weekdays • Select Days <p>Default setting: Disabled</p>
Peak Shift	<p>This option enables you to minimize the AC power consumption during the peak power times of day. After you enable this option, your system runs only in battery even if the AC is attached.</p> <ul style="list-style-type: none"> • Enable peak shift—is disabled • Set battery threshold (15% to 100%) - 15 % (enabled by default)
Battery Charge Configuration	<p>Allows you to select the charging mode for the battery. The options are:</p> <ul style="list-style-type: none"> • Adaptive—enabled by default • Standard—Fully charges your battery at a standard rate. • ExpressCharge—The battery charges over a shorter time using Dell's fast charging technology. • Primarily AC use • Custom <p>If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop.</p> <p> NOTE: All charging mode may not be available for all the batteries. To enable this option, disable the Advanced Battery Charge Configuration option.</p>
Advanced Battery Charge Configuration	<p>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.</p> <p>Enable Advanced Battery Charge Mode- is disabled</p>
Enable Intel Speed Shift Technology	<ul style="list-style-type: none"> • Enable Intel Speed Shift Technology <p>Default setting: Enabled</p>
USB Wake Support	<p>Allows you to enable USB devices to wake the system from Standby.</p>

Option	Description
	<p>NOTE: This feature is only functional when the AC power adapter is connected. If the AC power adapter is removed during Standby, the system setup removes power from all the USB ports to conserve battery power.</p> <ul style="list-style-type: none"> • Enable USB Wake Support
Wake on WLAN	<p>Allows you to enable or disable the feature that powers on the computer from the Off state when triggered by a LAN signal.</p> <ul style="list-style-type: none"> • Disabled • WLAN <p>Default setting: Disabled</p>

Wireless

Option	Description
WWAN/GPS	<p>Allows to enable/disable internal WWAN/GPS device.</p> <p>Enabled by default.</p>
Wireless Device Enable	<p>Allows you to enable or disable the internal wireless devices.</p> <ul style="list-style-type: none"> • WLAN • Bluetooth <p>All the options are enabled by default.</p>

POST behavior

Option	Description
Adapter Warnings	<p>Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters.</p> <p>Default setting: Enable Adapter Warnings</p>
Extended BIOS POST Time	<p>Allows you to create an extra preboot delay. The options are:</p> <ul style="list-style-type: none"> • 0 seconds—enabled by default. • 5 seconds • 10 seconds
Fastboot	<p>Allows you to speed up the boot process by bypassing some of the compatibility steps. The options are:</p> <ul style="list-style-type: none"> • Minimal—enabled by default • Thorough • Auto

Option	Description
Fn Lock Options	<p>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. The available options are:</p> <ul style="list-style-type: none"> • Fn Lock—enabled by default • Lock Mode Disable/Standard—enabled by default • Lock Mode Enable/Secondary
Numlock Enable	<p>Allows you to enable the Numlock option when the computer boots.</p> <p>Enable Network. This option is enabled by default.</p>
Full Screen Logo	<ul style="list-style-type: none"> • Enable Full Screen Logo—not enabled
Warnings and errors	<ul style="list-style-type: none"> • Prompt on warnings and errors—enabled by default • Continue on warnings • Continue on warnings and errors
MAC Address Pass-Through	<p>Replaces the external NIC MAC address with the selected MAC address from the system.</p> <ul style="list-style-type: none"> • System Unique MAC Address (default option) • Disabled

Virtualization support

Option	Description
Virtualization Technology	<p>This field specifies whether a virtual Machine Monitor (VMM) can utilize the conditional hardware capabilities provided by Intel Virtualization Technology.</p> <p>Enable Intel Virtualization Technology—enabled by default.</p>
VT for Direct I/O	<p>Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O.</p> <p>Enable VT for Direct I/O - enabled by default.</p>

Maintenance screen

Option	Description
Asset Tag	<p>Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.</p>
Service Tag	<p>Displays the Service Tag of your computer.</p>
BIOS Recovery	<p>This field allows you to recover from certain corrupted BIOS conditions from a recover file on the user primary hard drive or an external USB key.</p> <ul style="list-style-type: none"> • BIOS Recovery from Hard Drive—enabled by default • Always perform integrity check—disabled by default

Option	Description
Data Wipe	<p>This field allows users to erase the data securely from all internal storage devices. Option 'Wipe on Next boot' is not enabled by default. The following is list of devices affected:</p> <ul style="list-style-type: none"> • Internal SATA HDD/SSD • Internal M.2 SATA SDD • Internal M.2 PCIe SSD • Internal eMMC
BIOS Downgrade	<p>This controls flashing of the system firmware to previous revisions. Option 'Allow BIOS downgrade' is enabled by default.</p>

System logs

Option	Description
Power Events	<p>Allows you to view and clear the System Setup (Power) events.</p> <ul style="list-style-type: none"> • Keep (default) • Clear
BIOS Events	<p>Allows you to view and clear the System Setup (BIOS) POST events.</p> <ul style="list-style-type: none"> • Keep (default) • Clear
Thermal Events	<p>Allows you to view and clear the System Setup (Thermal) events.</p> <ul style="list-style-type: none"> • Keep (default) • Clear

SupportAssist System Resolution

Option	Description
Auto OS Recovery Threshold	<p>Allows you to control the automatic boot flow for SupportAssist System. Options are:</p> <ul style="list-style-type: none"> • Off • 1 • 2 (Enabled by default) • 3
SupportAssist OS Recovery	<p>Allows you to recover the SupportAssist OS Recovery (Disabled Enabledby default)</p>

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.

Updating the BIOS in Windows

It is recommended to update your BIOS (System Setup), when you replace the system board or if an update is available. For laptops, ensure that your computer battery is fully charged and connected to a power outlet.

NOTE: If BitLocker is enabled, it must be suspended prior to updating the system BIOS, and then re-enabled after the BIOS update is completed.

- 1 Restart the computer.
- 2 Go to **Dell.com/support**.
 - Enter the **Service Tag** or **Express Service Code** and click **Submit**.
 - Click **Detect Product** and follow the instructions on screen.
- 3 If you are unable to detect or find the Service Tag, click **Choose from all products**.
- 4 Choose the **Products** category from the list.

NOTE: Choose the appropriate category to reach the product page

- 5 Select your computer model and the **Product Support** page of your computer appears.
- 6 Click **Get drivers** and click **Drivers and Downloads**.
The Drivers and Downloads section opens.
- 7 Click **Find it myself**.
- 8 Click **BIOS** to view the BIOS versions.
- 9 Identify the latest BIOS file and click **Download**.
- 10 Select your preferred download method in the **Please select your download method below** window, click **Download File**.
The **File Download** window appears.
- 11 Click **Save** to save the file on your computer.
- 12 Click **Run** to install the updated BIOS settings on your computer.
Follow the instructions on the screen.

Updating BIOS on systems with BitLocker enabled

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/us/en/19/sln153694>

Updating your system BIOS using a USB flash drive

If the system cannot load into Windows but there is still a need to update the BIOS, download the BIOS file using another system and save it to a bootable USB Flash Drive.

NOTE: You will need to use a bootable USB Flash drive. Please refer to the following article for further details: <https://www.dell.com/support/article/us/en/19/sln143196/>

- 1 Download the BIOS update .EXE file to another system.
- 2 Copy the file e.g. O9010A12.EXE onto the bootable USB Flash drive.
- 3 Insert the USB Flash drive into the system that requires the BIOS update.
- 4 Restart the system and press F12 when the Dell Splash logo appears to display the One Time Boot Menu.
- 5 Using arrow keys, select **USB Storage Device** and click Return.
- 6 The system will boot to a Diag C:\> prompt.
- 7 Run the file by typing the full filename e.g. O9010A12.exe and press Return.
- 8 The BIOS Update Utility will load, follow the instructions on screen.



Figure 1. DOS BIOS Update Screen

System and setup password

Table 38. System and setup password

Password type	Description
System password	Password that you must enter to log on 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 stored on your computer if it is not locked and left unattended.

ℹ **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 F2 immediately after a power-on or re-boot.

- 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.
 - The password can contain the numbers 0 through 9.
 - Only lower case letters are valid, upper case letters are not allowed.

- Only the following special characters are allowed: space, ("), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).
- 3 Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
 - 4 Press Esc and a message prompts you to save the changes.
 - 5 Press Y to save the changes.
The computer reboots.

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 F2 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**, alter or delete the existing system password and press Enter or Tab.
- 4 Select **Setup Password**, alter or delete the existing setup password and press Enter or Tab.

NOTE: If you change the System and/or Setup password, re-enter 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 reboot.

Getting help

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.