

# Latitude 5491

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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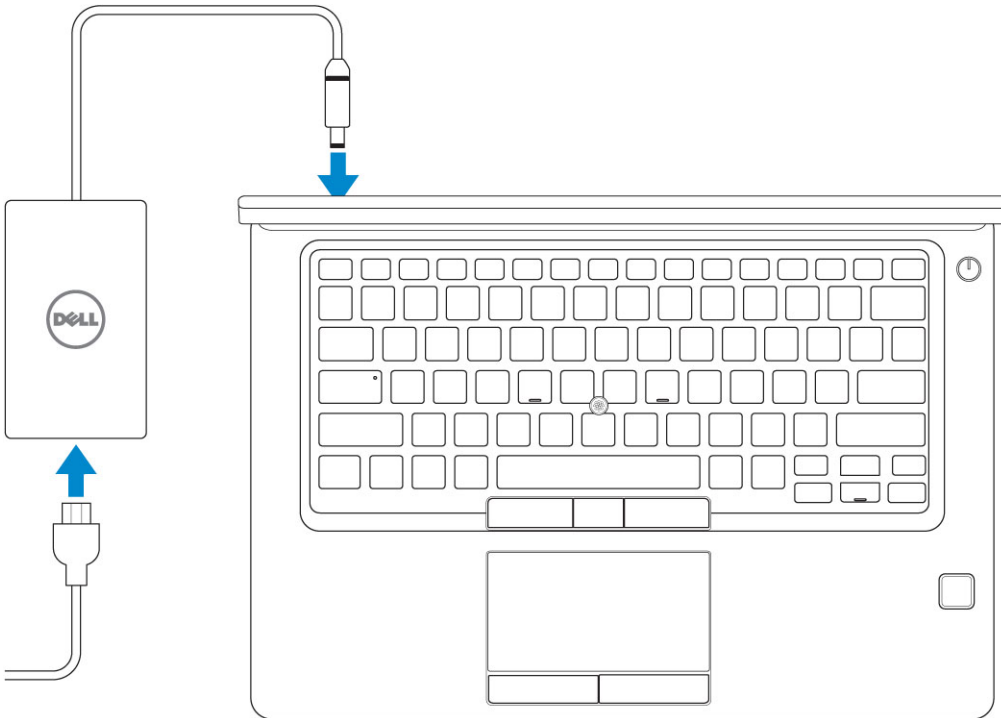
# Contents

<b>1 Set up your computer</b> .....	<b>5</b>
<b>2 Chassis view</b> .....	<b>7</b>
Front open view.....	7
Left view.....	8
Right view.....	8
Back view.....	9
Bottom view.....	10
Palm rest view.....	11
<b>3 System specifications</b> .....	<b>12</b>
Processor.....	12
System information.....	13
Operating system.....	13
Memory.....	13
Ports and connectors.....	14
Communications.....	14
Audio.....	15
Video.....	15
Storage.....	16
Media card-reader.....	16
Display.....	16
Keyboard.....	17
Camera.....	17
Touchpad.....	18
Battery.....	18
Input device .....	19
Power adapter.....	19
Dimensions and weight.....	19
Environmental.....	20
<b>4 System setup options</b> .....	<b>21</b>
Boot Sequence.....	21
Navigation keys.....	22
System Setup overview.....	22
Accessing System Setup.....	22
General screen options.....	22
System Configuration screen options.....	23
Video screen options.....	24
Security screen options.....	25
Secure Boot screen options.....	26
Intel Software Guard Extensions.....	27
Performance screen options.....	27

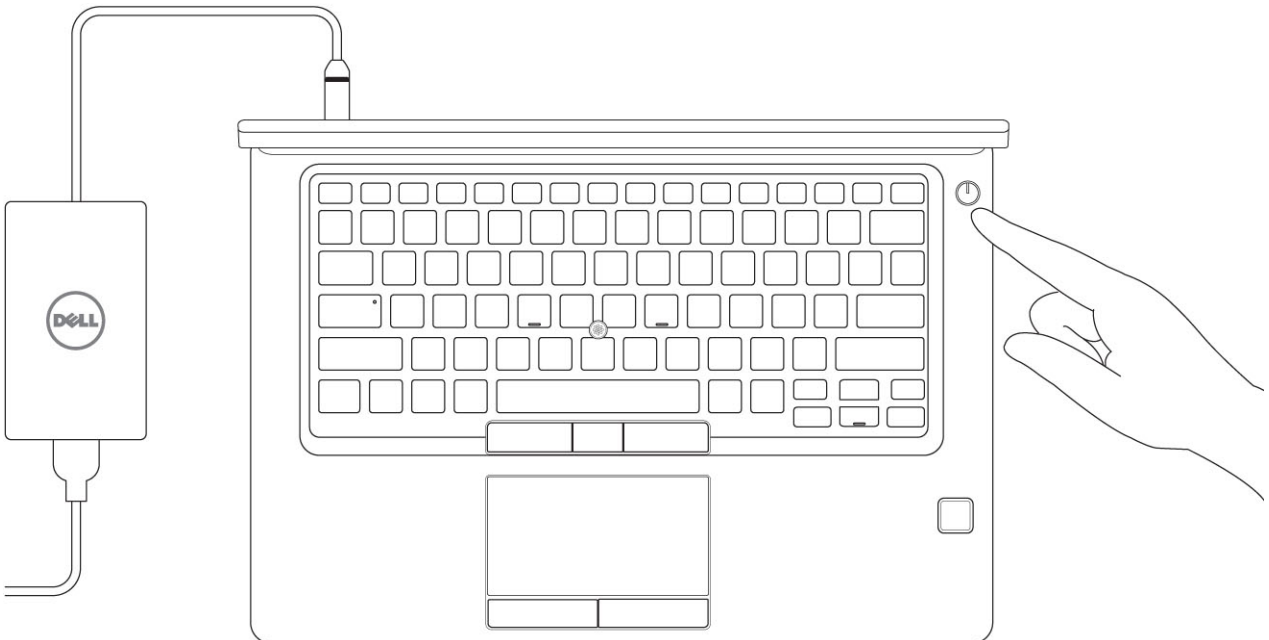
Power Management screen options.....	28
POST Behavior screen options.....	29
Manageability.....	30
Virtualization support screen options.....	31
Wireless screen options.....	31
Maintenance screen options.....	31
<b>5 Software.....</b>	<b>33</b>
Operating system configurations.....	33
Identifying Windows 10 OS version.....	33
Downloading drivers.....	33
Chipset driver.....	34
Serial ATA drivers.....	34
Graphics controller driver.....	34
USB drivers.....	34
Serial IO driver.....	35
Security drivers.....	35
<b>6 Getting help.....</b>	<b>37</b>
Contacting Dell.....	37

# Set up your computer

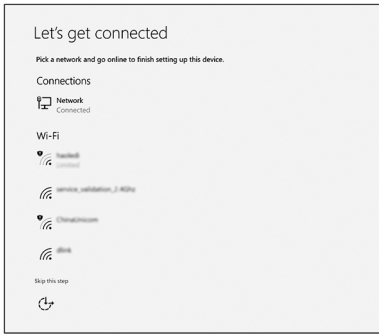
- 1 Connect the power adapter.



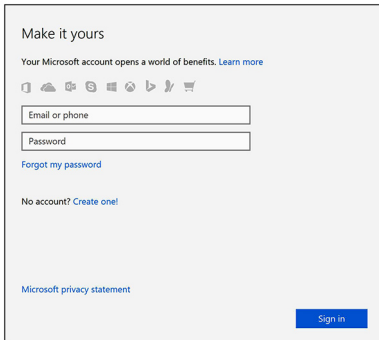
- 2 Press the power button.



- 3 Follow the instructions on the screen to finish Windows setup:
  - a Connect to a network.



b Sign-in to your Microsoft account or create a new account.



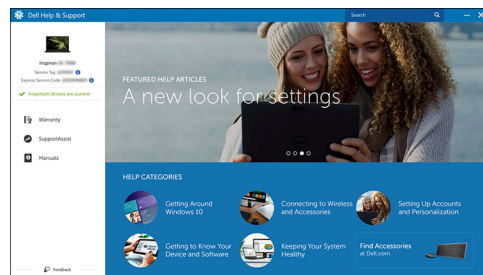
4 Locate Dell apps.

**Table 1. Locate Dell apps**



Register your computer

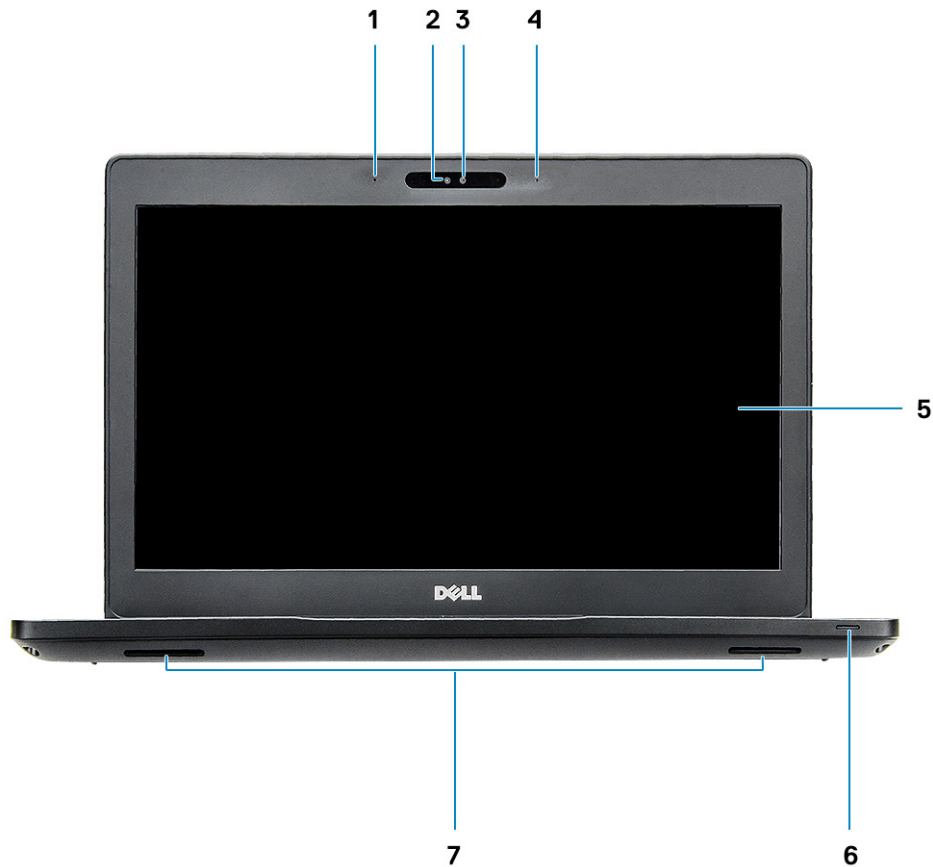
Dell Help & Support



SupportAssist — Check and update your computer

## Chassis view

### Front open view

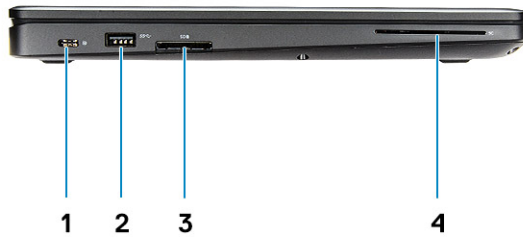


**Figure 1. Front view**

- 1 Dual array microphone
- 2 IR Camera
- 3 RGB camera
- 4 Dual array microphone
- 5 Display
- 6 Battery charge status light, Diagnostic LED
- 7 Speakers

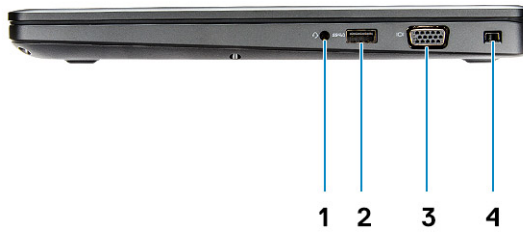
**NOTE:** Latitude 5491 system has an optional IR camera module.

## Left view



- |   |  |   |                             |
|---|--|---|-----------------------------|
| 1 | DisplayPort over USB Type-C (optional Thunderbolt 3) | 2 | USB 3.1 Gen 1 port          |
| 3 | SD card reader                                       | 4 | Smartcard reader (optional) |

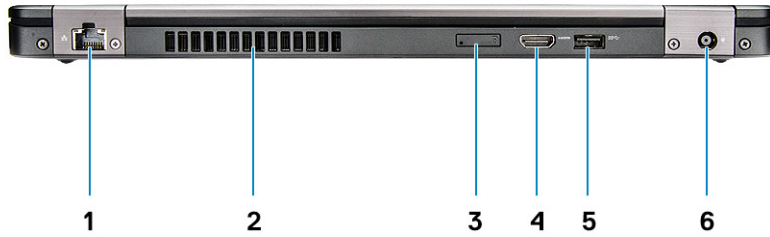
## Right view



- |   |                         |   |                                   |
|---|-------------------------|---|-----------------------------------|
| 1 | Headset/Microphone port | 2 | USB 3.1 Gen1 port with PowerShare |
| 3 | VGA port                | 4 | Noble wedge lock slot             |

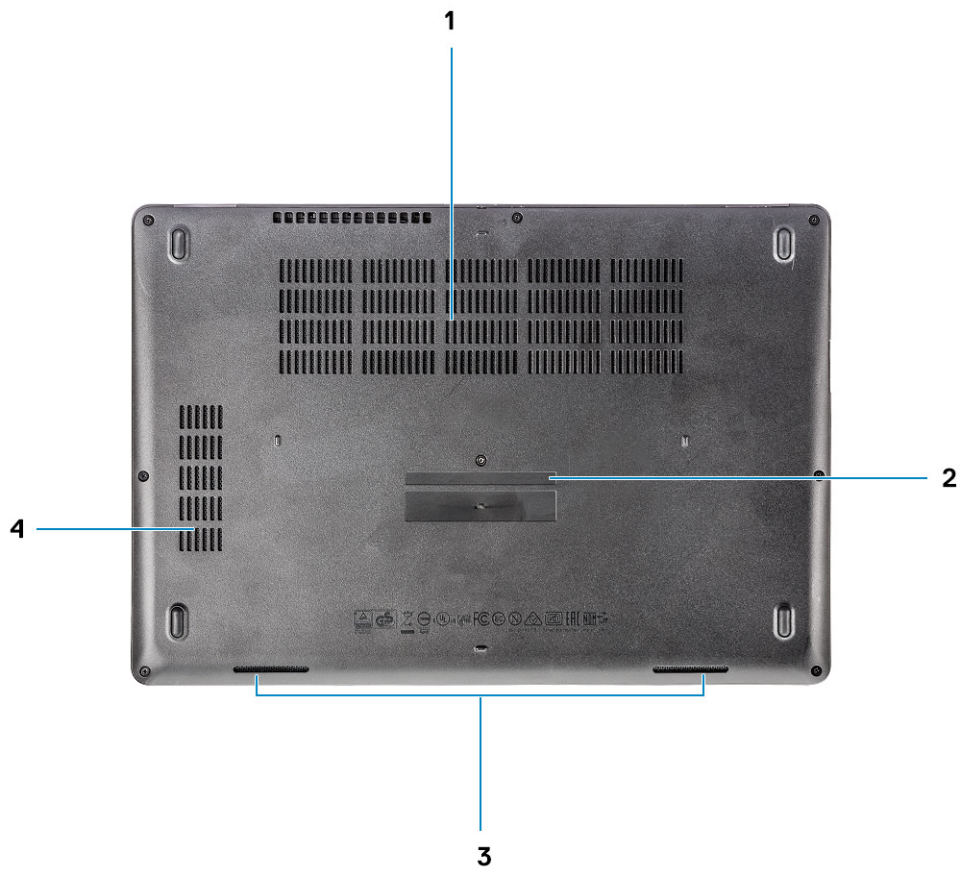


# Back view



- |   |                                |   |                      |
|---|--------------------------------|---|----------------------|
| 1 | Network port                   | 2 | Air vent             |
| 3 | micro-SIM card slot (optional) | 4 | HDMI port            |
| 5 | USB 3.1 Gen 1 port             | 6 | Power connector port |

# Bottom view



1 Fan vents

2 Service tag

3 Speaker

4 Fan vent

# Palm rest view



1 Power button/Power status LED  
3 Palm rest

2 Keyboard  
4 Touchpad

# System 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:

- Processor
- System information
- Operating system
- Memory
- Ports and connectors
- Communications
- Audio
- Video
- Storage
- Media card-reader
- Display
- Keyboard
- Camera
- Touchpad
- Battery
- Input device
- Power adapter
- Dimensions and weight
- Environmental

## Processor

Global Standard Products (GSP) are a subset of Dell's relationship products that are managed for availability and synchronized transitions on a worldwide basis. They ensure the same platform is available for purchase globally. This allows customers to reduce the number of configurations managed on a worldwide basis, thereby reducing their costs. They also enable companies to implement global IT standards by locking in specific product configurations worldwide. The following GSP processors identified below will be made available to Dell customers.

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

**Table 2. Processor specifications**

Type	UMA Graphics
Intel Core i5-8300H Processor (4 Core, 8M Cache, 2.3GHz, 35W cTDP)	Intel UHD Graphics 630
Intel Core i5-8400H Processor (4 Core, 8M Cache, 2.5GHz, 35W cTDP, vPro)	Intel UHD Graphics 630
Intel Core i7-8850H Processor (6 Core, 9M Cache, 2.6GHz, 35W cTDP, vPro)	Intel UHD Graphics 630

## System information

**Table 3. System information**

Chipset	Intel CM246 chipset
DRAM bus width	64-bit
FLASH EPROM	{SP1 256 Mbits}
PCIe bus	100 Mhz
External bus frequency	{DMI 3.0-8GT/s}

## Operating system

**Table 4. Operating system**

Operating systems supported	<ul style="list-style-type: none"> <li>Windows 10 Home (64 bit)</li> <li>Windows 10 Professional (64 bit)</li> <li>Ubuntu 16.04 LTS (64bit)</li> </ul>
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## Memory

**Table 5. Memory specifications**

Minimum memory configuration	4 GB
Maximum memory configuration	32 GB
Number of slots	2 SODIMM
Maximum memory supported per slot	16 GB
Memory options	<ul style="list-style-type: none"> <li>4 GB - 1 x 4 GB</li> <li>8 GB - 1 x 8 GB</li> <li>8 GB - 2 x 4 GB</li> <li>16 GB - 2 x 8 GB</li> </ul>

	<ul style="list-style-type: none"> <li>• 16 GB - 1 x 16 GB</li> <li>• 32 GB - 2 x 16 GB</li> </ul>
Type	DDR4 SDRAM Non-ECC memory
Speed	2666 MHz

## Ports and connectors

**Table 6. Ports and connectors**

Memory card reader	microSD 4.0 memory card reader
Smart card reader	Yes (Optional)
USB	Three USB 3.1 Gen 1 (one with PowerShare)
Security	Noble wedge lock slot
Docking port	DisplayPort over USB Type C (optional Thunderbolt 3)
Audio	<ul style="list-style-type: none"> <li>• Universal audio jack</li> <li>• Noise reduction array microphones</li> </ul>
Video	<ul style="list-style-type: none"> <li>• HDMI 1.4 (UMA)</li> <li>• One VGA</li> <li>• HDMI 2.0 (Discrete)</li> </ul>
Network adapter	One RJ-45 connector
Serial port	NA
Parallel port	NA
SIM card reader	One uSIM card slot (optional)

## Communications

**Table 7. Communications**

Network adapter	Intel i219LM Gigabit (10/100/1000 Mbps) Ethernet Controller (RJ-45 ) with Intel Remote Wake UP, PXE and Manageability capabilities alerting (AMT 11 / DASH 1.1 )
Wireless	<ul style="list-style-type: none"> <li>• Wi-Fi 802.11 a,b,g,n/ac via M.2</li> <li>• MU-MIMO RX</li> <li>• Bluetooth via WLAN</li> <li>• Mobile Broadband LTE</li> </ul>

# Audio

**Table 8. Audio specifications**

Controller	Realtek ALC3246-CG Controller with Waves MaxxAudio Pro
Type	Multi-channel high-definition audio
Stereo conversion	Digital audio-out through HDMI — up to 7.1 compressed and uncompressed audio
Speakers	Two (Bi-Directional speakers)
Internal interface	High-definition audio codec
Interface	<ul style="list-style-type: none"> <li>• Universal audio jack</li> <li>• High quality speakers</li> <li>• Noise reducing array microphones</li> <li>• Stereo headset/mic combo</li> </ul>
Internal speaker amplifier	2 W(RMS) per channel
Volume controls	Hot keys

# Video

**Table 9. Video**

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
Intel UHD Graphics 630	UMA	<ul style="list-style-type: none"> <li>• Intel® Core i5-8300H</li> <li>• Intel® Core i5-8400H</li> <li>• Intel® Core i7-8850H</li> </ul>	Integrated	Shared system memory(Upto 32 GB)	VGA HDMI 1.4(UMA) HDMI 2.0(DSC) eDP(Internal) Via Optional Type-C Port: DisplayPort	HDMI 1.4 (UMA): 4096x2160 @ 30 Hz HDMI 2.0 (DSC): 4096x2160 @ 60 Hz Analog: (VGA) system 1920x1200 @ 60Hz Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz
NVIDIA GeForce® MX130	Discrete	NA	GDDR5	2 GB	DisplayPort HDMI 2.0	HDMI 1.4 (UMA): 4096x2160 @ 30 Hz HDMI 2.0 (DSC): 4096x2160 @ 60 Hz Analog: (VGA) system 1920x1200 @ 60Hz

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
						Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz

## Storage

**Table 10. Storage specifications**

Primary/Boot drive	Primary interface	Secondary drive	Secondary interface	Security option
SSD M.2 2280 SATA: up to 512GB, OPAL SED options	SATA AHCI, Up to 6 Gbps	M.2 2230 (WWAN slot)	PCIe 3 x2 NVME, Up to 16 Gbps	YES
SSD M.2 2280 PCIe/NVMe: up to 1TB, OPAL SED options	PCIe 3 x4 NVME, Up to 32 Gbps	M.2 2230 (WWAN slot)	PCIe 3 x2 NVME, Up to 16 Gbps	YES
One 2.5 " HDD: up to 1TB, Hybrid OPAL SED options	SATA AHCI, Up to 6 Gbps	M.2 2230 (WWAN slot)	PCIe 3 x2 NVME, Up to 16 Gbps	YES
SSD M.2 2230 PCIe/NVMe : up to 256GB (in WWAN slot only)	PCIe 3 x2 NVME, Up to 16 Gbps	M.2 2280 SATA	SATA AHCI, Up to 6 Gbps	NO
SSD M.2 2230 PCIe/NVMe : up to 256GB (in WWAN slot only)	PCIe 3 x2 NVME, Up to 16 Gbps	2.5" HDD	SATA AHCI, Up to 6 Gbps	NO

## Media card-reader

**Table 11. Media-card reader specifications**

Type	One SD 4.0 card slot
Supported cards	<ul style="list-style-type: none"> <li>• SD 4.0</li> <li>• Memory Stick, Pro, HG, Duo and XC</li> <li>• SDHC</li> <li>• Secure Digitale Xtended Capacity(SDXC) and Multi-Media Card</li> <li>• SD UHS-I (Ultra High Speed-I) and SD UHS-II (Ultra High Speed-II) FD/HD mode</li> </ul>

## Display

**Table 12. Display specifications**

Type	<ul style="list-style-type: none"> <li>• 14-inch FHD WVA (1920x1080) Anti-glare (16:9) WLED non-touchscreen</li> <li>• 14.0-inch HD (1366 x 768)Anti-glare (16:9) WLED non-touchscreen</li> <li>• 14.0-inch FHD WVA (1920 x 1080)(16:9) Embedded Touch Display with Truelife</li> </ul>
Height (Active area)	6.9 inch (175.28 mm)



Width (Active area)	12.18 inch(309.4 mm)
Diagonal	14.0 inch(355.6 mm)
Touch panel specification	10 finger touch support is supported on the embedded 14" touch panel.
Luminance/Brightness (typical)	220/300 nits
Refresh rate	60 Hz
Horizontal viewing angle (min)	+/- 40 degrees(HD) +85/-85 degrees(FHD)
Vertical viewing angle (min)	+10/- 30 degrees(HD) +85/-85 degrees(FHD)

## Keyboard

**Table 13. Keyboard specifications**

Number of keys	<ul style="list-style-type: none"> <li>• 82 (U.S. and Canada)</li> <li>• 83 (Europe)</li> <li>• 84(Brazil)</li> <li>• 86 (Japan)</li> </ul>
Size	Full sized <ul style="list-style-type: none"> <li>• X= 19.05 mm key pitch</li> <li>• Y= 19.05 mm key pitch</li> </ul>
Backlit keyboard	Yes(Optional)
Layout	QWERTY/AZERTY/Kanji

## Camera

**Table 14. Camera specifications**

Resolution	<p>Camera:</p> <ul style="list-style-type: none"> <li>• Still image: 0.92 megapixels</li> <li>• Video: 1280x720 at 30 fps</li> </ul> <p>Infrared camera (optional):</p> <ul style="list-style-type: none"> <li>• Still image: 0.92 megapixels</li> <li>• Video: 1280x720 at 30 fps</li> </ul>
Diagonal viewing angle	<ul style="list-style-type: none"> <li>• Camera : 74 degrees</li> <li>• Infrared camera : 74 degrees</li> </ul>

# Touchpad

**Table 15. Touchpad specifications**

Resolution	<ul style="list-style-type: none"> <li>• Horizontal: 1221</li> <li>• Vertical: 661</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• Width: 4.0 inch (101.7 mm )</li> <li>• Height: 2.17 inch (55.2mm)</li> </ul>
Multi-touch	Supports up to 5 fingers. Gesture support is dependent on operating system.

# Battery

**Table 16. Battery Specifications**

Type	<ul style="list-style-type: none"> <li>• 51 WHr,3 Cell, Li-ion/Polymer, ExpressCharge Capable Battery</li> <li>• 68 WHr,4 Cell, Li-ion/Polymer, ExpressCharge Capable Battery</li> <li>• 68 WHr,4 Cell, Li-polymer, Long Cycle Life Battery</li> </ul>
Dimension	<ol style="list-style-type: none"> <li>1 51 WHr,3 Cell,Li-ion/Polymer Battery               <ul style="list-style-type: none"> <li>• Length: 181mm (7.126 inch)</li> <li>• Width: 95.9mm ( 3.78 inch)</li> <li>• Height: 7.05mm (0.28 inch)</li> <li>• Weight: 250.00 g</li> </ul> </li> <li>2 68 WHr,4 Cell,Li-ion/Polymer               <ul style="list-style-type: none"> <li>• Length: 233mm (9.17 inch)</li> <li>• Width: 95.9mm ( 3.78 inch)</li> <li>• Height: 7.05mm (0.28 inch)</li> <li>• Weight: 340.00 g</li> </ul> </li> <li>3 68 WHr,4 cell, Li-polymer Battery               <ul style="list-style-type: none"> <li>• Length: 233mm (9.17 inch)</li> <li>• Width: 95.9mm ( 3.78 inch)</li> <li>• Height: 7.05mm (0.28 inch)</li> <li>• Weight: 340.00 g</li> </ul> </li> </ol>
Weight (maximum)	0.34 kg (0.75 lb )
Voltage	<ul style="list-style-type: none"> <li>• 51 WHr - 11.4 VDC</li> <li>• 68 WHr - 7.6 VDC</li> <li>• 68 WHr - 7.6 VDC</li> </ul>
Life span	300 discharge/recharge cycles(Standard) and 1000discharge/recharge cycles(Long cycle)
Charging time when the computer is off (approximate)	2-4 hours

Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions
Temperature range: Operating	<ul style="list-style-type: none"> <li>Charge: 0 °C to 50 °C (32 °F to 122 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>
Temperature range: Storage	-20 °C to 65 °C (-4 °F to 149 °F)
Coin-cell battery	ML1220

## Input device

- Single Point non-backlit Keyboard
- Dual Pointing backlit Keyboard
- Microsoft Precision Touchpad

## Power adapter

**Table 17. Power adapter specifications**

Type	<ul style="list-style-type: none"> <li>• 90 W adapter</li> <li>• 130 W adapter</li> </ul>
Input Voltage	100 to 240 VAC
Input current (maximum)	<ul style="list-style-type: none"> <li>• 90 W - 1.6 A</li> <li>• 130 W - 1.8 A</li> </ul>
Adapter size	7.4 mm Barrel Type
Input frequency	50 Hz to 60 Hz
Output current	<ul style="list-style-type: none"> <li>• 90 W - 4.62 A (continuous)</li> <li>• 130 W - 6.7 A (continuous)</li> </ul>
Rated output voltage	19.5 VDC
Temperature range (Operating)	-40° to 70° C (-40° to 158° F)
Temperature range (Non-Operating)	-40° to 70° C (-40° to 158° F)

## Dimensions and weight

**Table 18. Dimensions and weight**

Height	<p>Touch System</p> <ul style="list-style-type: none"> <li>• Front height - 0.8 inch (20.3 mm)</li> <li>• Back height - 0.9 inch (24.3 mm)</li> </ul>
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	Non-Touch System
	<ul style="list-style-type: none"> <li>• Front height - 0.8 inch (20.3 mm)</li> <li>• Back height - 0.9 inch (24.3 mm)</li> </ul>
Width	13.1 inch (333.40mm)
Depth	9.0 inch (228.9 mm)
Weight	Starting 3.63 lbs (1.65 kg)

## Environmental

**NOTE:** For more details on Dell environmental features, please go to the environmental attributes section. See your specific region for availability.

### Table 19. Environmental

Energy efficient power supply	Internal
80 plus bronze certification	155W EPA bronze
80 plus platinum certification	240W EPA platinum
Customer replaceable unit	No
Recyclable packaging	Optional, US only
MultiPack packaging	No

# System setup options

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

Topics:

- [Boot Sequence](#)
- [Navigation keys](#)
- [System Setup overview](#)
- [Accessing System Setup](#)
- [General screen options](#)
- [System Configuration screen options](#)
- [Video screen options](#)
- [Security screen options](#)
- [Secure Boot screen options](#)
- [Intel Software Guard Extensions](#)
- [Performance screen options](#)
- [Power Management screen options](#)
- [POST Behavior screen options](#)
- [Manageability](#)
- [Virtualization support screen options](#)
- [Wireless screen options](#)
- [Maintenance screen options](#)

## 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.

# 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.
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.

**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.

## System Setup overview

System Setup allows you to:

- Change the system configuration information after you add, change, or remove any hardware in your computer.
- Set or change a user-selectable option such as the user password.
- Read the current amount of memory or set the type of hard drive installed.

Before you use System Setup, it is recommended that you write down the System Setup screen information for future reference.

**CAUTION:** Unless you are an expert computer user, do not change the settings for this program. Certain changes can cause your computer to work incorrectly.

## Accessing System Setup

- 1 Turn on (or restart) your computer.
- 2 After the white Dell logo appears, press F2 immediately.  
The System Setup page is displayed.

**NOTE:** If you wait too long and the operating system logo appears, wait until you see the desktop. Then, shut down or restart your computer and try again.

**NOTE:** After the Dell logo appears, you can also press F12 and then select BIOS setup.

## General screen options


This section lists the primary hardware features of your computer.

Option	Description
<b>System Information</b>	This section lists the primary hardware features of your computer. <ul style="list-style-type: none"><li>• System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, and the Express Service Code.</li><li>• Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology, DIMM A Size, DIMM B Size,</li></ul>

Option	Description
	<ul style="list-style-type: none"> <li>Processor Information: Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable, and 64-Bit Technology.</li> <li>Device Information: Displays Primary Hard Drive, M.2 SATA2, M.2 SATA, M.2 PCIe SSD-0, LOM MAC Address, Video Controller, Video BIOS Version, Video Memory, Panel Type, Native Resolution, Audio Controller, Wi-Fi Device, WiGig Device, Cellular Device, Bluetooth Device.</li> </ul>
<b>Battery Information</b>	Displays the battery status and the type of AC adapter connected to the computer.
<b>Boot Sequence</b>	Allows you to change the order in which the computer attempts to find an operating system. <ul style="list-style-type: none"> <li>Diskette Drive</li> <li>Internal HDD</li> <li>USB Storage Device</li> <li>CD/DVD/CD-RW Drive</li> <li>Onboard NIC</li> </ul>
<b>Advanced Boot Options</b>	This option allows you the legacy option ROMs to load. By default, the <b>Enable Legacy Option ROMs</b> is disabled.
<b>UEFI Boot Path Security</b>	This options 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. <ul style="list-style-type: none"> <li><b>Always, Except Internal HDD</b> (enabled by default)</li> <li>Always</li> <li>Never</li> </ul>
<b>Date/Time</b>	Allows you to change the date and time.

## System Configuration screen options

Option	Description
<b>Integrated NIC</b>	Allows you to configure the integrated network controller. The options are: <ul style="list-style-type: none"> <li>Disabled</li> <li>Enabled</li> <li><b>Enabled w/PXE:</b> This option is enabled by default.</li> </ul>
<b>SATA Operation</b>	Allows you to configure the internal SATA hard-drive controller. The options are: <ul style="list-style-type: none"> <li>Disabled</li> <li>AHCI</li> <li><b>RAID On:</b> This option is enabled by default.</li> </ul>
<b>Drives</b>	Allows you to configure the SATA drives on board. All drives are enabled by default. The options are: <ul style="list-style-type: none"> <li>SATA-0</li> <li>SATA-2</li> <li>SATA-4</li> <li>M.2 PCI-e SSD-0</li> <li>M.2 PCI-e SSD-1</li> </ul>

Option	Description
<b>SMART Reporting</b>	<p>This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the SMART (Self Monitoring Analysis and Reporting Technology) specification. This option is disabled by default.</p> <ul style="list-style-type: none"> <li>· Enable SMART Reporting</li> </ul>
<b>USB Configuration</b>	<p>This is an optional feature.</p> <p>This field configures the integrated USB controller. If Boot Support is enabled, the system is allowed to boot any type of USB Mass Storage Devices (HDD, memory key, floppy).</p> <p>If USB port is enabled, device attached to this port is enabled and available for OS.</p> <p>If USB port is disabled, the OS cannot see any device attached to this port.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>· <b>Enable USB Boot Support:</b> This option is enabled by default.</li> <li>· <b>Enable External USB Port:</b> This option is enabled by default.</li> </ul> <p> <b>NOTE:</b> USB keyboard and mouse always work in the BIOS setup irrespective of these settings.</p>
<b>Dell Type-C Dock Configuration</b>	<p>The option <b>Always Allow Dell Docks</b> is enabled by default.</p>
<b>USB PowerShare</b>	<p>This field configures the USB PowerShare feature behavior. This option allows you to charge external devices using the stored system battery power through the USB PowerShare port. The option "Enable USB Power Share" is not enabled by default.</p>
<b>Audio</b>	<ul style="list-style-type: none"> <li>· <b>Enable Microphone (default)</b></li> <li>· <b>Enable Internal Speaker (default)</b></li> </ul>
<b>Unobtrusive Mode</b>	<p>This option, when enabled, pressing <b>Fn+F7</b> turns off all light and sound emissions in the system. To resume normal operation, press <b>Fn+F7</b> again. This option is disabled by default.</p>
<b>Miscellaneous Devices</b>	<p>Allows you to enable or disable the following devices:</p> <ul style="list-style-type: none"> <li>· Enable Camera: This option is enabled by default.</li> <li>· Enable Hard Drive Free Fall Protection: This option is enabled by default.</li> <li>· Enable Secure Digital (SD) Card: This option is enabled by default.</li> <li>· Secure Digital (SD) Card Boot</li> <li>· Secure Digital (SD) Card Read — only Mode</li> </ul>

## Video screen options

Option	Description
<b>LCD Brightness</b>	Allows you to set the display brightness depending up on the power source (On Battery and On AC).

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



# Security screen options

Option	Description
<b>Admin Password</b>	<p>Allows you to set, change, or delete the administrator (admin) password.</p> <p><b>NOTE:</b> You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password.</p> <p><b>NOTE:</b> Successful password changes take effect immediately.</p> <p>Default setting: Not set</p>
<b>System Password</b>	<p>Allows you to set, change or delete the system password.</p> <p><b>NOTE:</b> Successful password changes take effect immediately.</p> <p>Default setting: Not set</p>
<b>Internal HDD-0 Password</b>	<p>Allows you to set, change, or delete the Internal HDD-0 password.</p> <p><b>NOTE:</b> Successful password changes take effect immediately.</p> <p>Default setting: Not set</p>
<b>Strong Password</b>	<p>Allows you to enforce the option to always set strong passwords.</p> <p>Default Setting: Enable Strong Password is not selected.</p> <p><b>NOTE:</b> If Strong Password is enabled, Admin and System passwords must contain at least one uppercase character, one lowercase character and be at least 8 characters long.</p>
<b>Password Configuration</b>	<p>Allows you to determine the minimum and maximum length of Administrator and System passwords.</p>
<b>Password Bypass</b>	<p>Allows you to enable or disable the permission to bypass the System and the Internal HDD password, when they are set. The options are:</p> <ul style="list-style-type: none"><li>· Disabled</li><li>· Reboot bypass</li></ul> <p>Default setting: Disabled</p>
<b>Password Change</b>	<p>Allows you to enable the disable permission to the System and Hard Drive passwords when the admin password is set.</p> <p>Default setting: <b>Allow Non-Admin Password Changes</b> is selected.</p>
<b>Non-Admin Setup Changes</b>	<p>Allows you to determine whether changes to the setup options are allowed when an Administrator Password is set. If disabled the setup options are locked by the admin password. The option "Allow Wireless Switch changes" is disabled by default</p>
<b>UEFI Capsule Firmware Updates</b>	<p>Allows you to control whether this system allows BIOS updates via UEFI capsule update packages.</p> <ul style="list-style-type: none"><li>· <b>Enable UEFI Capsule Firmware Updates</b> (enabled by default)</li></ul>
<b>TPM 2.0 Security</b>	<p>Allows you to enable the Trusted Platform Module (TPM) during POST. The options are:</p> <ul style="list-style-type: none"><li>· <b>TPM On:</b> This option is enabled by default.</li><li>· Clear</li></ul>

Option	Description
	<ul style="list-style-type: none"> <li>· PPI Bypass for Enabled Commands</li> <li>· <b>Attestation Enable</b> (This option is enabled by default)</li> <li>· <b>Key Storage Enable</b> (This option is enabled by default)</li> <li>· PPI Bypass for Disable Commands</li> <li>· <b>PPI Bypass for Clear Commands</b> (This option is enabled by default)</li> <li>· SHA-256: This option is enabled by default.</li> <li>· Disabled</li> <li>· <b>Enabled</b> (This option is enabled by default)</li> </ul> <p><b>i NOTE: To upgrade or downgrade TPM1.2/2.0, download the TPM wrapper tool (software).</b></p>
<b>Computrace</b>	<p>Allows you to activate or disable the optional Computrace software The options are:</p> <ul style="list-style-type: none"> <li>· Deactivate</li> <li>· Disable</li> <li>· Activate</li> </ul> <p><b>i NOTE: The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed</b></p>
<b>CPU XD Support</b>	<p>Allows you to enable the Execute Disable mode of the processor.</p> <p><b>Enable CPU XD Support</b> (default)</p>
<b>OROM Keyboard Access</b>	<p>Allows you to set an option to enter the Option ROM Configuration screens using hotkeys during boot. The options are:</p> <ul style="list-style-type: none"> <li>· Enabled</li> <li>· One Time Enable</li> <li>· Disabled</li> </ul> <p>Default setting: Enabled</p>
<b>Admin Setup Lockout</b>	<p>Allows you to prevent users from entering Setup when an Administrator password is set.</p> <p>Default Setting: Disabled</p>
<b>Master Password Lockout</b>	<p>Allows you to disable master password support. Hard disk password need to be cleared before the setting can be changed</p> <ul style="list-style-type: none"> <li>· Enable Master Password Lockout</li> </ul> <p>Default setting: Disabled</p>
<b>SMM Security Mitigation</b>	<p>The option SMM Security Mitigation is not selected by default</p>

## Secure Boot screen options

Option	Description
<b>Secure Boot Enable</b>	<p>This option enables or disables the <b>Secure Boot</b> feature.</p> <ul style="list-style-type: none"> <li>· Disabled</li> <li>· <b>Enabled</b></li> </ul>

Option	Description
	Default setting: Enabled.
<b>Expert Key Management</b>	<p>Allows you to manipulate the security key databases only if the system is in Custom Mode. The <b>Enable Custom Mode</b> option is disabled by default. The options are:</p> <ul style="list-style-type: none"> <li>· <b>PK</b> (default)</li> <li>· KEK</li> <li>· db</li> <li>· dbx</li> </ul> <p>If you enable the <b>Custom Mode</b>, the relevant options for <b>PK, KEK, db, and dbx</b> appear. The options are:</p> <ul style="list-style-type: none"> <li>· <b>Save to File</b>—Saves the key to a user-selected file</li> <li>· <b>Replace from File</b>—Replaces the current key with a key from a user-selected file</li> <li>· <b>Append from File</b>—Adds a key to the current database from a user-selected file</li> <li>· <b>Delete</b>—Deletes the selected key</li> <li>· <b>Reset All Keys</b>—Resets to default setting</li> <li>· <b>Delete All Keys</b>—Deletes all the keys</li> </ul> <p><b>NOTE:</b> 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

Option	Description
<b>Intel SGX Enable</b>	<p>This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS. The options are:</p> <ul style="list-style-type: none"> <li>· Disabled</li> <li>· Enabled</li> <li>· <b>Software Controlled</b> (default)</li> </ul>
<b>Enclave Memory Size</b>	<p>This option sets SGX Enclave Reserve Memory Size. The option are:</p> <ul style="list-style-type: none"> <li>· 32 MB</li> <li>· 64 MB</li> <li>· 128 MB</li> </ul>


## Performance screen options

Option	Description
<b>Multi Core Support</b>	<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"> <li>· All: This option is selected by default.</li> <li>· 1</li> <li>· 2</li> <li>· 3</li> </ul>
<b>Intel SpeedStep</b>	Allows you to enable or disable the Intel SpeedStep feature.

<b>Option</b>	<b>Description</b>
	<ul style="list-style-type: none"> <li>· Enable Intel SpeedStep</li> </ul> <p>Default setting: The option is enabled.</p>
<b>C-States Control</b>	<p>Allows you to enable or disable the additional processor sleep states.</p> <ul style="list-style-type: none"> <li>· C states</li> </ul> <p>Default setting: The option is enabled.</p>
<b>Intel TurboBoost</b>	<p>Allows you to enable or disable the Intel TurboBoost mode of the processor.</p> <ul style="list-style-type: none"> <li>· Enable Intel TurboBoost</li> </ul> <p>Default setting: The option is enabled.</p>
<b>Hyper-Thread Control</b>	<p>Allows you to enable or disable the Hyper-Threading in the processor.</p> <ul style="list-style-type: none"> <li>· Disabled</li> <li>· <b>Enabled</b></li> </ul> <p>Default setting: Enabled.</p>



## Power Management screen options

<b>Option</b>	<b>Description</b>
<b>AC Behavior</b>	<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>
<b>Enable Intel Speed Shift Technology</b>	<p>the option Enable Intel Speed Shift Technology option is enabled by default.</p>
<b>Auto On Time</b>	<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"> <li>· Disabled</li> <li>· Every Day</li> <li>· Weekdays</li> <li>· Select Days</li> </ul> <p>Default setting: Disabled</p>
<b>USB Wake Support</b>	<p>Allows you to enable USB devices to wake the system from Standby.</p> <p><b>i</b> <b>NOTE:</b> 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"> <li>· Enable USB Wake Support</li> <li>· <b>Wake on Dell USB-C Dock:</b> This option is enabled by default.</li> </ul>
<b>Wireless Radio Control</b>	<p>Allows you to enable or disable the feature that automatically switches from wired or wireless networks without depending on the physical connection.</p> <ul style="list-style-type: none"> <li>· Control WLAN Radio</li> </ul>

<b>Option</b>	<p><b>Description</b></p> <ul style="list-style-type: none"> <li>· Control WWAN Radio</li> </ul> <p>Default setting: The options are disabled.</p>
<b>Wake on LAN/WLAN</b>	<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"> <li>· Disabled</li> <li>· LAN Only</li> <li>· WLAN Only</li> <li>· LAN or WLAN</li> </ul> <p>Default setting: Disabled</p>
<b>Block Sleep</b>	<p>This option lets you block entering to sleep (S3 state) in operating system environment.</p> <p>Block Sleep (S3 state)</p> <p>Default setting: This option is disabled</p>
<b>Peak Shift</b>	<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>
<b>Advanced Battery Charge Configuration</b>	<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>Disabled</p> <p>Default setting: Disabled</p>
<b>Primary Battery Charge Configuration</b>	<p>Allows you to select the charging mode for the battery. The options are:</p> <ul style="list-style-type: none"> <li>· <b>Adaptive</b> (default)</li> <li>· Standard — Fully charges your battery at a standard rate.</li> <li>· ExpressCharge — The battery charges over a shorter period of time using Dell's fast charging technology. This option is enabled by default.</li> <li>· Primarily AC use</li> <li>· Custom</li> </ul> <p>If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop.</p> <p> <b>NOTE: All charging mode may not be available for all the batteries. To enable this option, disable the Advanced Battery Charge Configuration option.</b></p>
<b>Type-C Connector Power</b>	<p>This option lets you set the maximum power that can be drawn from the Type-C connector.</p> <ul style="list-style-type: none"> <li>· <b>7.5 Watts</b> (default)</li> <li>· 15 Watts</li> </ul>

## POST Behavior screen options

<b>Option</b>	<b>Description</b>
<b>Adapter Warnings</b>	<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>

Option	Description
<b>Keypad (Embedded)</b>	<p>Allows you to choose one of two methods to enable the keypad that is embedded in the internal keyboard.</p> <ul style="list-style-type: none"> <li>· Fn Key Only: This option is enabled by default.</li> <li>· By Numlock</li> </ul> <p> <b>NOTE:</b> When setup is running, this option has no effect. Setup works in Fn Key Only mode.</p>
Mouse/Touchpad	<ul style="list-style-type: none"> <li>· Serial Mouse</li> <li>· PS2 Mouse</li> <li>· <b>Touchpad/PS-2 Mouse (default)</b></li> </ul>
<b>Numlock Enable</b>	<p>Allows you to enable the Numlock option when the computer boots.</p> <p>Enable Numlock. This option is enabled by default.</p>
<b>Fn Lock Options</b>	<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"> <li>· <b>Fn Lock.</b> This option is selected by default.</li> <li>· Lock Mode Disable/Standard</li> <li>· Lock Mode Enable/Secondary</li> </ul>
<b>Fastboot</b>	<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"> <li>· Minimal</li> <li>· <b>Thorough</b> (default)</li> <li>· Auto</li> </ul>
<b>Extended BIOS POST Time</b>	<p>Allows you to create an additional preboot delay. The options are:</p> <ul style="list-style-type: none"> <li>· <b>0 seconds.</b> This option is enabled by default.</li> <li>· 5 seconds</li> <li>· 10 seconds</li> </ul>
<b>Full Screen Logo</b>	<p>This option will display full screen logo if your image match screen resolution</p> <ul style="list-style-type: none"> <li>· Enable Full Screen Logo</li> </ul>
<b>Warnings and Error</b>	<p>This option will cause the boot process to only pause when warnings or errors are detected.</p> <ul style="list-style-type: none"> <li>· Prompt on Warnings and Errors This option is enabled by default.</li> <li>· Continue on Warnings</li> <li>· Continue on Warnings and Errors</li> </ul> <p> <b>NOTE:</b> Error deemed critical to the operation of the system hardware will always halt the system.</p>

## Manageability

Option	Description
<b>USB Provision</b>	The option "Enable USB Provision" is not selected by default.

Option	Description
<b>MEBx Hotkey</b>	The option <b>Enable MEBx Hotkey</b> is selected by default.

## Virtualization support screen options

Option	Description
<b>Virtualization</b>	Allows you to enable or disable the Intel Virtualization Technology. Enable Intel Virtualization Technology: This option is enabled by default.
<b>VT for Direct I/O</b>	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O. Enable VT for Direct I/O: This option is enabled by default.
<b>Trusted Execution</b>	This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel Trusted Execution Technology, the TPM Virtualization Technology, and Virtualization technology for direct I/O must be enabled to use this feature. Trusted Execution: This option is disabled by default.

## Wireless screen options

Option	Description
<b>Wireless Switch</b>	Allows to set the wireless devices that can be controlled by the wireless switch. The options are: <ul style="list-style-type: none"> <li>· WWAN</li> <li>· GPS (on WWAN Module)</li> <li>· WLAN</li> <li>· Bluetooth</li> </ul> All the options are enabled by default. <p><b>NOTE:</b> For WLAN and WiGig enable or disable controls are tied together and they cannot be enabled or disabled independently.</p>
<b>Wireless Device Enable</b>	Allows you to enable or disable the internal wireless devices. <ul style="list-style-type: none"> <li>· WWAN/GPS</li> <li>· WLAN</li> <li>· Bluetooth</li> </ul> All the options are enabled by default.

## Maintenance screen options

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

Option	Description
	<ul style="list-style-type: none"><li>· Allows BIOS Downgrade (enabled by default)</li></ul>
<b>Data Wipe</b>	<p>This field allows users to erase the data securely from all internal storage devices. The following is list of devices affected:</p> <ul style="list-style-type: none"><li>· Internal SATA HDD/SSD</li><li>· Internal M.2 SATA SDD</li><li>· Internal M.2 PCIe SSD</li><li>· Internal eMMC</li></ul>
<b>BIOS Recovery</b>	<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"><li>· BIOS Recovery from Hard Drive (enabled by default)</li><li>· BIOS Auto-Recovery</li></ul>



# Software

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

Topics:

- [Operating system configurations](#)
- [Identifying Windows 10 OS version](#)
- [Downloading drivers](#)

## Operating system configurations

This topic lists the operating system supported by your system.

**Table 20. Operating systems**

Microsoft Windows	Microsoft® Windows 10 Pro 64 bit
	Mircosoft® Windows 10 Home 64 bit
Other	Ubuntu 16.04 LTS 64-bit

## Identifying Windows 10 OS version

Run dialog box with the Windows Key + R keyboard shortcut. Once that box shows up, enter winver (it stands for Windows version).

**Table 21. Identifying Windows 10 OS version**

OS Version	Code name	Version	Latest build
Windows 10	Threshold 1	1507	10240
Windows 10	Threshold 2	1511	10586
Windows 10	Redstone 1	1607	14393
Windows 10	Redstone 2	1703	15063
Windows 10	Redstone 3	1709	16299
Windows 10	Redstone 4	1803	17134

## 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.

## Chipset driver




The chipset driver helps the system identify the components and install necessary drivers accurately. Verify that the chipset was installed in the system by checking the below controllers. Many of the common devices are visible under Other Devices if no drivers are installed. The unknown devices disappear once you install the chipset driver.

Make sure to install the following drivers, some of them may exist by default.

- Intel HID Event Filter Driver
- Intel Dynamic Platform and Thermal Framework Driver
- Intel serial IO driver
- Management Engine
- Realtek PCI-E memory card

## Serial ATA drivers

Install the latest Intel Rapid Storage driver for best performance. Using the default Windows storage drivers is not recommended. Verify if the default serial ATA drivers are installed in the computer.



-  Storage controllers
  -  Intel(R) Chipset SATA/PCIe RST Premium Controller
  -  Microsoft Storage Spaces Controller

## Graphics controller driver




Verify if the graphics controller driver is already installed in the computer.

**Table 22. Graphics controller driver**

Before Installation







-  Display adapters
  -  Microsoft Basic Display Adapter

After Installation

-  Display adapters
  -  Intel(R) UHD Graphics 630
  -  NVIDIA GeForce MX130

## USB drivers

Verify if the USB drivers are already installed in the computer.

- 
 Universal Serial Bus controllers
  - 
 Intel(R) USB 3.1 eXtensible Host Controller - 1.10 (Microsoft)
  - 
 UCSI USB Connector Manager
  - 
 USB Composite Device
  - 
 USB Composite Device
  - 
 USB Root Hub (USB 3.0)

## Serial IO driver

Verify if the drivers for Touchpad, IR camera, and keyboard are installed.




















- 
 Human Interface Devices
  - 
 Converted Portable Device Control device
  - 
 Dell Touchpad
  - 
 HID-compliant consumer control device
  - 
 HID-compliant system controller
  - 
 HID-compliant touch pad
  - 
 HID-compliant touch screen
  - 
 HID-compliant vendor-defined device
  - 
 HID-compliant vendor-defined device
  - 
 HID-compliant wireless radio controls
  - 
 I2C HID Device
  - 
 Intel(R) HID Event Filter
  - 
 Microsoft Input Configuration Device
  - 
 Portable Device Control device
  - 
 USB Input Device
- 
 Keyboards
  - 
 HID Keyboard Device
  - 
 HID Keyboard Device
  - 
 Standard PS/2 Keyboard

Figure 2. Serial IO driver

## Security drivers

This section lists the security devices in the Device Manager.

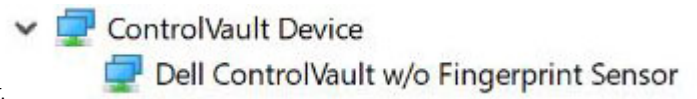
### Security device drivers

Verify if the security device drivers are installed in the computer.

- 
 Security devices
  - 
 Trusted Platform Module 2.0

## Fingerprint sensor drivers

Verify if the Fingerprint sensor drivers are installed in the computer.



# 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.