

# Dell Latitude 9410

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

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

**Table 1. Locate Dell apps**

| Dell apps | Details                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------|
|           | <b>Dell Product Registration</b><br>Register your computer with Dell.                           |
|           | <b>Dell Help &amp; Support</b><br>Access help and support for your computer.                    |
|           | <b>SupportAssist</b><br>Proactively checks the health of your computer's hardware and software. |

**Table 1. Locate Dell apps (continued)**

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

5. Create recovery drive for Windows.

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

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

# 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.

## Prerequisites

-  **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.

## Steps

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](http://www.dell.com/support/manuals).

# Chassis overview

## Topics:

- [Left view](#)
- [Right view](#)
- [Top view](#)
- [Front view](#)
- [Bottom view](#)
- [Chassis modes](#)

## Left view



1. USB 3.2 Gen 2 Type-C port with Thunderbolt 3 and Power Delivery
2. USB 3.2 Gen 2 Type-C port with Thunderbolt 3
3. HDMI 2.0 Port
4. USB 3.2 Gen 1 Type-A port with PowerShare
5. Smart card reader (optional)

## Right view



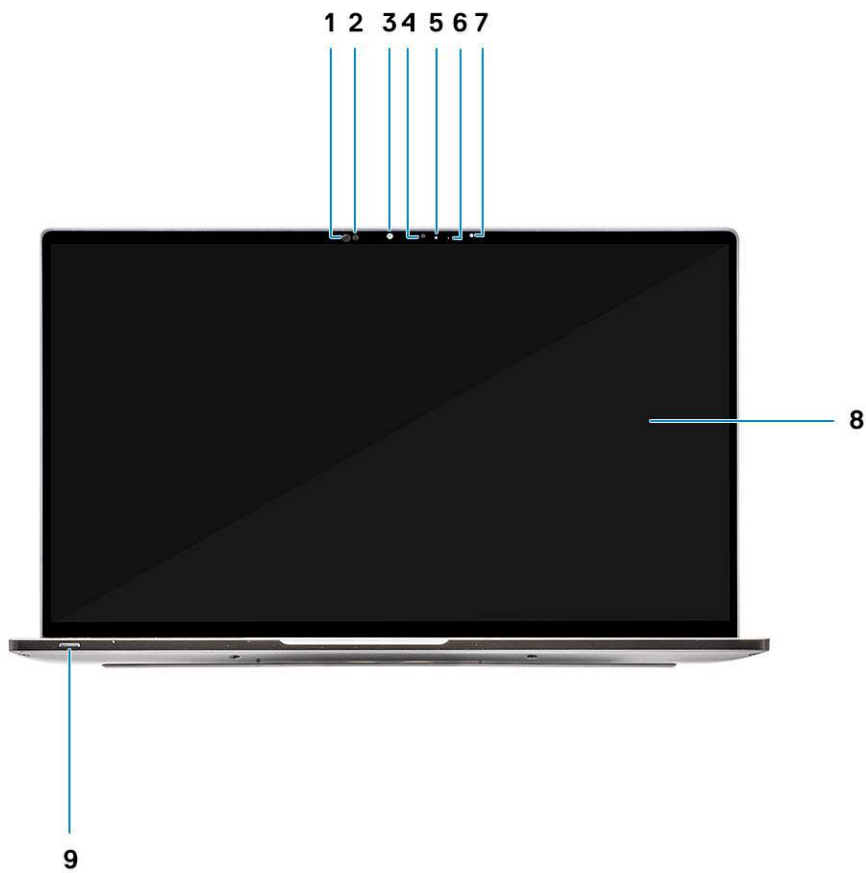
1. Universal audio port
2. uSIM card slot (WWAN only)
3. uSD 4.0 card reader
4. USB 3.2 Gen 1 Type-A port with PowerShare
5. Wedge-shaped lock slot

## Top view



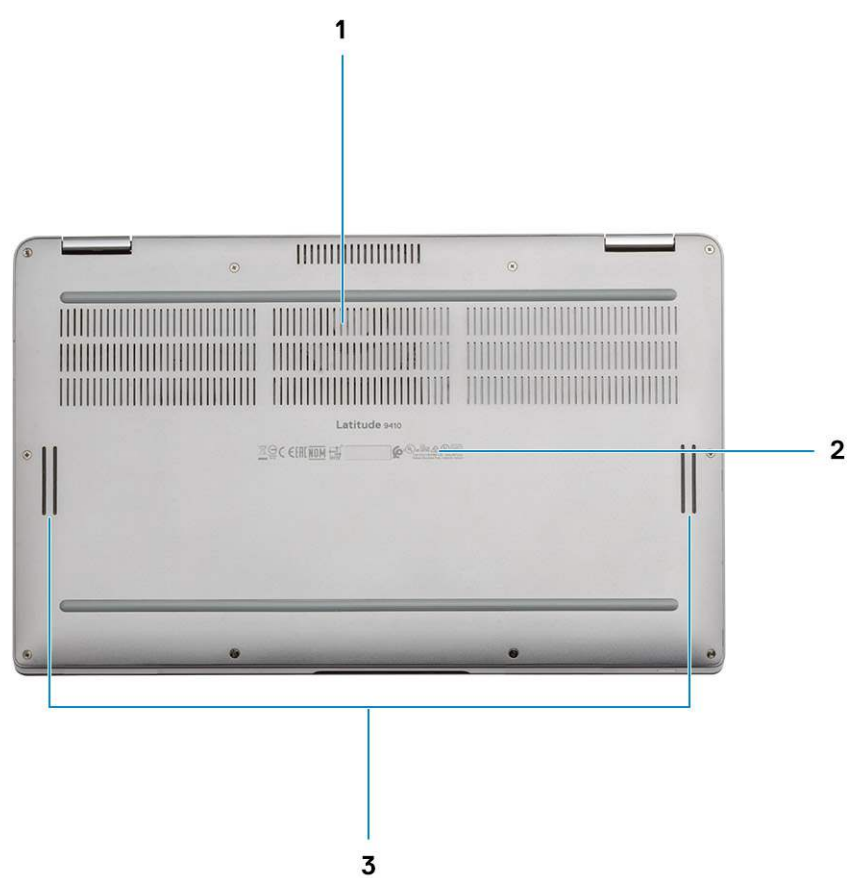
1. Power button with fingerprint reader (optional)
2. Keyboard
3. Touchpad with NFC (optional)

## Front view



1. Proximity sensor receiver
2. Proximity sensor emitter
3. IR emitter
4. Infrared camera
5. Camera status LED
6. IR emitter
7. Ambient Light Sensor (ALS)
8. Display panel
9. Battery/Diagnostics status LED

# Bottom view



- 1. Thermal vent
- 2. Service Tag label
- 3. Speakers

# Chassis modes

This section illustrates various supported modes for Latitude 7400 2-in-1: Notebook, Tablet, and Tent.

| Supported Modes | Pictorial reference                                                                  |
|-----------------|--------------------------------------------------------------------------------------|
| Notebook        |  |

| Supported Modes | Pictorial reference                                                                |
|-----------------|------------------------------------------------------------------------------------|
| Tablet          |  |
| Tent            |  |

## Keyboard shortcuts

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

**Table 2. List of keyboard shortcuts**

| Keys            | Primary Behavior                                                                                                                                                | Secondary Behavior (Fn + Key) |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Fn + Esc        | Escape                                                                                                                                                          | Toggle Fn-key lock            |
| Fn + F1         | Mute audio                                                                                                                                                      | F1 behavior                   |
| Fn + F2         | Decrease volume                                                                                                                                                 | F2 behavior                   |
| Fn + F3         | Increase volume                                                                                                                                                 | F3 behavior                   |
| Fn + F4         | Mic Mute                                                                                                                                                        | F4 behavior                   |
| Fn + F5         | Keyboard backlight<br> <b>NOTE:</b> Not applicable for non-backlight keyboard. | F5 behavior                   |
| Fn + F6         | Decrease screen brightness                                                                                                                                      | F6 behavior                   |
| Fn + F7         | Increase screen brightness                                                                                                                                      | F7 behavior                   |
| Fn + F8         | Display Toggle (Win + P)                                                                                                                                        | F8 behavior                   |
| Fn + F10        | Print Screen                                                                                                                                                    | F10 behavior                  |
| Fn + F11        | Home                                                                                                                                                            | F11 behavior                  |
| Fn + F12        | End                                                                                                                                                             | F12 behavior                  |
| Fn + Right Ctrl | Emulates Right Click                                                                                                                                            | --                            |

# Specifications of Latitude 9410

## Topics:

- Dimensions and weight
- Processors
- Chipset
- Operating system
- Memory
- Ports and connectors
- Communications
- Audio
- Storage
- Media-card reader
- Keyboard
- Camera
- Touchpad
- Power adapter
- Battery
- Display
- Fingerprint reader
- Video
- Security
- Security Software
- Computer environment

## Dimensions and weight

**Table 3. Dimensions and weight**

| Description |       | Values                                                                                                                                                                                               |
|-------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Height:     |       |                                                                                                                                                                                                      |
|             | Front | 8.53 mm (0.34 in.)                                                                                                                                                                                   |
|             | Rear  | 14.89 mm (0.59 in.)                                                                                                                                                                                  |
| Width       |       | 319.77 mm (12.59 in.)                                                                                                                                                                                |
| Depth       |       | 199.90 mm (7.87 in.)                                                                                                                                                                                 |
| Weight      |       | 1.36 kg (3.0 lb)                                                                                                                                                                                     |
|             |       |  <b>NOTE:</b> The weight of your computer depends on the configuration ordered and the manufacturing variability. |

# Processors

**Table 4. Processors**

| Description         | Values                                           |                                                  |                                                  |                                                  |
|---------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Processors          | 10 <sup>th</sup> Generation Intel Core i5-10210U | 10 <sup>th</sup> Generation Intel Core i5-10310U | 10 <sup>th</sup> Generation Intel Core i7-10610U | 10 <sup>th</sup> Generation Intel Core i7-10810U |
| Wattage             | 15 W                                             | 15 W                                             | 15 W                                             | 15 W                                             |
| Core count          | 4                                                | 4                                                | 4                                                | 6                                                |
| Thread count        | 8                                                | 8                                                | 8                                                | 12                                               |
| Speed               | 1.6 GHz to 4.2 GHz                               | 1.6 GHz to 4.4 GHz                               | 1.8 GHz to 4.9 GHz                               | 1.1 GHz to 4.9 GHz                               |
| Cache               | 6 MB                                             | 6 MB                                             | 8 MB                                             | 12 MB                                            |
| Integrated graphics | Intel UHD Graphics                               | Intel UHD Graphics                               | Intel UHD Graphics                               | Intel UHD Graphics                               |

## Chipset

The following table lists the details of the chipset supported by your Latitude 5320.

**Table 5. Chipset**

| Description    | Values                                                  |
|----------------|---------------------------------------------------------|
| Chipset        | Intel Comet Lake U (V1) PCH-LP                          |
| Processor      | 10 <sup>th</sup> Generation Intel Core i5/i7 processors |
| DRAM bus width | 64-bit                                                  |
| Flash EPROM    | 16 MB/32 MB                                             |
| PCIe bus       | Up to Gen 3                                             |

## Operating system

Your Latitude 9410 supports the following operating systems:

- Windows 10 Home (64-bit)
- Windows 10 Professional (64-bit)

## Memory

The following table lists the memory specifications of your Latitude 9410:

**Table 6. Memory specifications**

| Description | Values   |
|-------------|----------|
| Slots       | On board |
| Type        | LPDDR3   |
| Speed       | 2133 MHz |

**Table 6. Memory specifications (continued)**

| Description              | Values                                                                                                                                    |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum memory           | 16 GB                                                                                                                                     |
| Minimum memory           | 8 GB                                                                                                                                      |
| Memory size per slot     | 8 GB, 16 GB                                                                                                                               |
| Configurations supported | <ul style="list-style-type: none"> <li>8 GB, LPDDR3 SDRAM, 2133 MHz, on board</li> <li>16 GB, LPDDR3 SDRAM, 2133 MHz, on board</li> </ul> |

## Ports and connectors

**Table 7. External ports and connectors**

| Description        | Values                                                                                                                                                                                                                         |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>External:</b>   |                                                                                                                                                                                                                                |
| USB                | <ul style="list-style-type: none"> <li>2 USB 3.2 Gen 1 Type-A ports with Power Share</li> <li>1 USB 3.2 Gen 2 Type-C port with Power Delivery/Thunderbolt 3</li> <li>1 USB 3.2 Gen 2 Type-C port with Thunderbolt 3</li> </ul> |
| Audio              | 1 Universal Audio Jack                                                                                                                                                                                                         |
| Video              | 1 HDMI 2.0                                                                                                                                                                                                                     |
| Media card reader  | uSD 4.0                                                                                                                                                                                                                        |
| Docking port       | Thunderbolt                                                                                                                                                                                                                    |
| Power adapter port | 4.50 mm x 2.90 mm DC-in                                                                                                                                                                                                        |
| Security           | Wedge-shaped security lock                                                                                                                                                                                                     |

**Table 8. Internal ports and connectors**

| Description      | Values                                                                                                                                                                                                                                                                                                                                 |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Internal:</b> |                                                                                                                                                                                                                                                                                                                                        |
| M.2              | <ul style="list-style-type: none"> <li>1 M.2 2280 PCIe x 4</li> <li>1 M.2 2230 PCIe x 4</li> </ul> <p> <b>NOTE:</b> To learn more about the features of different types of M.2 cards, see the knowledge base article <a href="#">SLN301626</a>.</p> |

## Communications

### Wireless module

**Table 9. Wireless module specifications**

| Description  | Values   |             |
|--------------|----------|-------------|
| Model number | QCA61x4A | Intel AX201 |

**Table 9. Wireless module specifications (continued)**

| Description               | Values                                                                                                                                          |                                                                                                                                                                              |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transfer rate             | Up to 867 Mbps                                                                                                                                  | Up to 2400 Mbps                                                                                                                                                              |
| Frequency bands supported | 2.4 GHz/5 GHz                                                                                                                                   | 2.4 GHz/5 GHz                                                                                                                                                                |
| Wireless standards        | <ul style="list-style-type: none"> <li>• Wi-Fi 802.11b/g/a/n/ac</li> <li>• Wi-Fi 4 (WiFi 802.11n)</li> <li>• Wi-Fi 5 (WiFi 802.11ac)</li> </ul> | <ul style="list-style-type: none"> <li>• WiFi 802.11a/b/g</li> <li>• Wi-Fi 4 (WiFi 802.11n)</li> <li>• Wi-Fi 5 (WiFi 802.11ac)</li> <li>• Wi-Fi 6 (WiFi 802.11ax)</li> </ul> |
| Encryption                | <ul style="list-style-type: none"> <li>• 128-bit WEP</li> <li>• AES-CCMP</li> <li>• TKIP</li> </ul>                                             | <ul style="list-style-type: none"> <li>• 64-bit/128-bit WEP</li> <li>• AES-CCMP</li> <li>• TKIP</li> </ul>                                                                   |
| Bluetooth                 | Bluetooth 5.0                                                                                                                                   | Bluetooth 5.1                                                                                                                                                                |

## Wireless wide area network module

**Table 10. WWAN module specifications**

| Description                         | Values                                                                                                              |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Model number                        | Qualcomm Snapdragon X20 Global Gigabit LTE-A                                                                        |
| Form factor                         | M.2 3042 Key.B single side                                                                                          |
| Transfer rate                       | Up to 1 Gbps DL/150 Mbps UL (Cat 16)                                                                                |
| Operating Frequency bands supported | (1,2,3,4,5,7,8,12,13,14,17,18,19,20,25,26,28,29,30,32,38,39,40,41,42,43,46,66)<br>, HSPA+ (1, 2, 4, 5, 6, 8, 9, 19) |
| Power supply                        | DC 3.135 V to 4.4 V, Typical 3.3 V                                                                                  |
| Temperature                         | Normal operating temperature: -30°C to + 70°C<br>Extended Operating temperature: -40°C to +85°C                     |
| Antenna connector                   | WWAN Main Antenna x 1<br>WWAN Diversity Antenna x 1<br>4 x 4 MIMO Antenna x 2                                       |
| Wake on Wireless                    | Supported                                                                                                           |
| Network standards                   | LTE FDD/TDD, WCDMA/HSPA+, GPS/GLONASS/ Beidou /Galileo                                                              |

## Audio

**Table 11. Audio specifications**

| Description        | Values                          |
|--------------------|---------------------------------|
| Controller         | Realtek ALC3254-CG              |
| Stereo conversion  | Supported                       |
| Internal interface | High-definition audio interface |
| External interface | Universal Audio Jack            |

**Table 11. Audio specifications (continued)**

| Description                |         | Values                          |
|----------------------------|---------|---------------------------------|
| Speakers                   |         | Two                             |
| Internal speaker amplifier |         | Integrated 2W (RMS) per channel |
| External volume controls   |         | Keyboard shortcut controls      |
| Speaker output:            |         |                                 |
|                            | Average | 2 W                             |
|                            | Peak    | 2.5 W                           |
| Subwoofer output           |         | Not supported                   |
| Microphone                 |         | Digital-array microphones       |

## Storage

Your computer supports one of the following configurations:

- M.2 2230, 128 GB, Gen 3 PCIe x4, NVMe, Class 35 SSD
- M.2 2230, 256 GB, Gen 3 PCIe x4, NVMe, Class 35 SSD
- M.2 2230, 512 GB, Gen 3 PCIe x4, NVMe, Class 35 SSD
- M.2 2230, 512 GB, Gen 3 PCIe x4, NVMe, Class 35 SSD
- M.2 2230, 1 TB, Gen 3 PCIe x4, NVMe, Class 35 SSD
- M.2 2230, 256 GB, Gen 3 PCIe x4, NVMe Class 35 Self-Encrypting SSD
- M.2 2280, 256 GB, Gen 3 PCIe x4, NVMe, Class 40 SSD
- M.2 2280, 512 GB, Gen 3 PCIe x4, NVMe, Class 40 SSD
- M.2 2280, 1 TB, Gen 3 PCIe x4, NVMe, Class 40 SSD
- M.2 2280, 2 TB, Gen 3 PCIe x4, NVMe, Class 40 SSD
- M.2 2280, 512 GB, Gen 3 PCIe x4, NVMe, Class 40 Self-Encrypting SSD

**Table 12. Storage specifications**

| Storage type                       | Interface type | Capacity     |
|------------------------------------|----------------|--------------|
| M.2 Class 35 solid-state drive     | PCIe NVMe 3x4  | Up to 1 TB   |
| M.2 Class 35 SED solid-state drive | PCIe NVMe 3x4  | Up to 256 GB |
| M.2 Class 40 solid-state drive     | PCIe NVMe 3x4  | Up to 2 TB   |
| M.2 Class 40 SED solid-state drive | PCIe NVMe 3x4  | Up to 512 GB |

## Media-card reader

**Table 13. Media-card reader specifications**

| Description | Values         |
|-------------|----------------|
| Type        | SD card reader |

**Table 13. Media-card reader specifications (continued)**

| Description     | Values              |
|-----------------|---------------------|
| Cards supported | micro SD card (uSD) |

## Keyboard

**Table 14. Keyboard specifications**

| Description    | Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type           | <ul style="list-style-type: none"> <li>Standard Keyboard with Backlight</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Layout         | QWERTY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Number of keys | <ul style="list-style-type: none"> <li>United States and Canada: 82 keys</li> <li>United Kingdom: 83 keys</li> <li>Japan: 84 keys</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Size           | X=19.05 mm key pitch<br>Y=18.05 mm key pitch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Shortcut keys  | <p>Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key.</p> <p> <b>NOTE:</b> You can define the primary behavior of the function keys (F1–F12) changing <b>Function Key Behavior</b> in BIOS setup program.</p> <p><a href="#">Keyboard shortcuts</a></p> |

## Camera

**Table 15. Camera specifications**

| Description       | Values                 |
|-------------------|------------------------|
| Number of cameras | One                    |
| Type              | Infrared camera        |
| Location          | Front camera           |
| Sensor type       | CMOS sensor technology |
| Resolution        |                        |
| Camera            |                        |
| Still image       | 0.92 megapixel         |
| Video             | 1280 x 720 at 30 fps   |
| Infrared camera   |                        |
| Still image       | 0.23 megapixel         |

**Table 15. Camera specifications (continued)**

| Description            |                 | Values              |
|------------------------|-----------------|---------------------|
|                        | Video           | 640 x 360 at 15 fps |
| Diagonal viewing angle |                 |                     |
|                        | Camera          | 77.7 degrees        |
|                        | Infrared camera | 77.7 degrees        |

## Touchpad

**Table 16. Touchpad specifications**

| Description |            | Values |
|-------------|------------|--------|
| Resolution: |            |        |
|             | Horizontal | 1235   |
|             | Vertical   | 695    |
| Dimensions: |            |        |
|             | Horizontal | 105 mm |
|             | Vertical   | 60 mm  |

## Touchpad gestures

For more information about touchpad gestures for Windows, see the Microsoft knowledge base article [4027871](https://support.microsoft.com/4027871) at [support.microsoft.com](https://support.microsoft.com).

## Power adapter

**Table 17. Power adapter specifications**

| Description                 |                                                                                              | Values                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Type                        | 65 W USB-C                                                                                   | 90 W USB-C                                                                                  |
| Diameter (connector)        | Type-C connector                                                                             | Type-C connector                                                                            |
| Input voltage               | 100 VAC to 240 VAC                                                                           | 100 VAC to 240 VAC                                                                          |
| Input frequency             | 50 Hz to 60 Hz                                                                               | 50 Hz to 60 Hz                                                                              |
| Input current (maximum)     | 1.7 A                                                                                        | 1.5 A                                                                                       |
| Output current (continuous) | 20 V/3.25 A (Continuous) 15 V/3 A (Continuous) 9.0 V/3 A (Continuous) 5.0 V/3 A (Continuous) | 20 V/4.5 A (Continuous) 15 V/3 A (Continuous) 9.0 V/3 A (Continuous) 5.0 V/3 A (Continuous) |
| Rated output voltage        | 20 VDC/15 VDC/9 VDC/5 VDC                                                                    | 20 VDC/15 VDC/9 VDC/5 VDC                                                                   |
| Temperature range:          |                                                                                              |                                                                                             |
|                             | Operating                                                                                    | 0 °C to 40 °C (32 °F to 104 °F)                                                             |

**Table 17. Power adapter specifications (continued)**

| Description |         | Values                          |                                 |
|-------------|---------|---------------------------------|---------------------------------|
|             | Storage | -40 °C to 70 °C (-40 °F 158 °F) | -40 °C to 70 °C (-40 °F 158 °F) |

## Battery

**Table 18. Battery specifications**

| Description                 |           | Values                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                        |           | 4-cell lithium-ion 52 WHr with ExpressCharge                                                                                                                                                                                                                                                                                                            | 6-cell lithium-ion 78 WHr with ExpressCharge                                                                                                                                                                                                                                                                                                            | 4-cell lithium-ion 52 WHr with Long life cycle                                                                                                                                                                                                                                                                                                            |
| Voltage                     |           | 7.6 VDC                                                                                                                                                                                                                                                                                                                                                 | 11.4 VDC                                                                                                                                                                                                                                                                                                                                                | 7.6 VDC                                                                                                                                                                                                                                                                                                                                                   |
| Weight (maximum)            |           | 0.23 kg                                                                                                                                                                                                                                                                                                                                                 | 0.34 kg                                                                                                                                                                                                                                                                                                                                                 | 0.23 kg                                                                                                                                                                                                                                                                                                                                                   |
| Dimensions:                 |           |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                           |
|                             | Height    | 250 mm                                                                                                                                                                                                                                                                                                                                                  | 301.67 mm                                                                                                                                                                                                                                                                                                                                               | 250 mm                                                                                                                                                                                                                                                                                                                                                    |
|                             | Width     | 85.8 mm                                                                                                                                                                                                                                                                                                                                                 | 111.36 mm                                                                                                                                                                                                                                                                                                                                               | 85.8 mm                                                                                                                                                                                                                                                                                                                                                   |
|                             | Depth     | 4.99 mm                                                                                                                                                                                                                                                                                                                                                 | 9.09 mm                                                                                                                                                                                                                                                                                                                                                 | 4.99 mm                                                                                                                                                                                                                                                                                                                                                   |
| Temperature range:          |           |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                           |
|                             | Operating | Charge: 0 °C to 45 °C (32 °F to 113 °F) Discharge: 0 °C to 70 °C (32 °F to 158 °F)                                                                                                                                                                                                                                                                      | Charge: 0 °C to 45 °C (32 °F to 113 °F) Discharge: 0 °C to 70 °C (32 °F to 158 °F)                                                                                                                                                                                                                                                                      | Charge: 0 °C to 45 °C (32 °F to 113 °F) Discharge: 0 °C to 70 °C (32 °F to 158 °F)                                                                                                                                                                                                                                                                        |
|                             | Storage   | -20 °C to 65 °C (-4 °F to 149 °F)                                                                                                                                                                                                                                                                                                                       | -20 °C to 65 °C (-4 °F to 149 °F)                                                                                                                                                                                                                                                                                                                       | -20 °C to 65 °C (-4 °F to 149 °F)                                                                                                                                                                                                                                                                                                                         |
| Operating time              |           | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.                                                                                                                                                                                                                                         | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.                                                                                                                                                                                                                                         | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.                                                                                                                                                                                                                                           |
| Charging time (approximate) |           | 3 hours (when the computer is off)<br> <b>NOTE:</b> Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information on the Dell Power Manager see <a href="http://www.dell.com/">www.dell.com/</a> | 3 hours (when the computer is off)<br> <b>NOTE:</b> Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information on the Dell Power Manager see <a href="http://www.dell.com/">www.dell.com/</a> | 3 hours (when the computer is off)<br> <b>NOTE:</b> Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information on the Dell Power Manager see <a href="http://www.dell.com/">www.dell.com/</a> |
| Life span (approximate)     |           | 300 discharge/charge cycles                                                                                                                                                                                                                                                                                                                             | 300 discharge/charge cycles                                                                                                                                                                                                                                                                                                                             | 300 discharge/charge cycles                                                                                                                                                                                                                                                                                                                               |
| Coin-cell battery           |           | CR-2032                                                                                                                                                                                                                                                                                                                                                 | CR-2032                                                                                                                                                                                                                                                                                                                                                 | CR-2032                                                                                                                                                                                                                                                                                                                                                   |
| Operating time              |           | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.                                                                                                                                                                                                                                         | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.                                                                                                                                                                                                                                         | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.                                                                                                                                                                                                                                           |

# Display

**Table 19. Display specifications**

| Description                 |          | Values                   |
|-----------------------------|----------|--------------------------|
| Type                        |          | FHD                      |
| Panel technology            |          | Wide viewing angle (WVA) |
| Luminance (typical)         |          | 300 Nits                 |
| Dimensions (active area):   |          |                          |
|                             | Height   | 173.95 mm (6.85 in.)     |
|                             | Width    | 309.40 mm (12.18 in.)    |
|                             | Diagonal | 14 in.                   |
| Native resolution           |          | 1920 x 1080              |
| Megapixels                  |          | 2.0736                   |
| Color gamut                 |          | 72% NTSC Typical         |
| Pixels Per Inch (PPI)       |          | 157                      |
| Contrast ratio (min)        |          | 1000:1                   |
| Response time (max)         |          | 35 ms                    |
| Refresh rate                |          | 60 Hz                    |
| Horizontal view angle       |          | 80 +/- degree            |
| Vertical view angle         |          | 80 +/- degree            |
| Pixel pitch                 |          | 0.161 x 0.161            |
| Power consumption (maximum) |          | 1.80 W                   |
| Anti-glare vs glossy finish |          | Glossy                   |
| Touch options               |          | Yes                      |

# Fingerprint reader

**Table 20. Fingerprint reader specifications**

| Description       |  | Values           |
|-------------------|--|------------------|
| Sensor technology |  | Capacitive       |
| Sensor resolution |  | 363              |
| Sensor area       |  | 5.25 mm x 6.9 mm |
| Sensor pixel size |  | 76 x 100         |

# Video

**Table 21. Integrated graphics specifications**

| Integrated graphics |                          |                      |                                  |
|---------------------|--------------------------|----------------------|----------------------------------|
| Controller          | External display support | Memory size          | Processor                        |
| Intel UHD Graphics  | One HDMI 2.0             | Shared system memory | 10th Generation Intel Core i5/i7 |

## Security

- Trusted Platform Module (TPM) 2.0 FIPS-140-2 Certified / TCG Certified
- Windows Hello compliant fingerprint reader in power button (Optional)
- Touch Fingerprint Reader (in Power Button) with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification (Optional)
- Contacted Smart Card and ControlVault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification (Optional)
- Touch Fingerprint Reader (in Power Button), Contacted Smart Card, and Control Vault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification (Optional)
- Touch Fingerprint Reader (in Power Button), Contacted Smart Card, Contactless Smart Card, NFC, and Control Vault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification (Optional)
- Face IR camera (Windows Hello compliant) with ExpressSign-in (Optional)

## Security Software

- Dell Client Command Suite
- Dell BIOS Verification
- Dell Endpoint Security and Management Software (Optional)
- VMware Carbon Black Endpoint Standard
- VMware Carbon Black Endpoint Standard and Secureworks Threat Detection and Response
- Dell Encryption Enterprise
- Dell Encryption Personal
- Carbonite
- VMware Workspace ONE
- Absolute Endpoint Visibility and Control
- Netskope
- Dell Supply Chain Defense

## Computer environment

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

**Table 22. Computer environment**

| Description                 | Operating                        | Storage                               |
|-----------------------------|----------------------------------|---------------------------------------|
| Temperature range           | 0°C (32°F) °C to 40°C (104°F) °C | °C to 65°C (149°F) °C (32°F to TBD°F) |
| Relative humidity (maximum) | 0.1% to 0.9% (non-condensing)    | 0% to 0.95% (non-condensing)          |
| Vibration (maximum)*        | 0.66 GRMS                        | 1.30 GRMS                             |
| Shock (maximum)             | 140 G†                           | 160 G†                                |

**Table 22. Computer environment (continued)**

| Description        | Operating                          | Storage                              |
|--------------------|------------------------------------|--------------------------------------|
| Altitude (maximum) | 0 m to 3048 m (32 ft to 5518.4 ft) | 0 m to 10668 m (32 ft to 19234.4 ft) |

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

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

# 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](#)
- [ExpressSign-in](#)

## 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                                                                             |
|-------------------|----------------------------------------------------------------------------------------|
| <b>Up arrow</b>   | Moves to the previous field.                                                           |
| <b>Down arrow</b> | Moves to the next field.                                                               |
| <b>Enter</b>      | Selects a value in the selected field (if applicable) or follow the link in the field. |
| <b>Spacebar</b>   | Expands or collapses a drop-down list, if applicable.                                  |

## Keys

### Tab

## Navigation

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 enables 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:** XXXX denotes the SATA drive number.

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

**NOTE:** Choosing **Diagnostics**, displays the **SupportAssist** screen.

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

# System setup options

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

## General options

Table 23. General

| Option                         | Description                                                                                                                                                                                                                                                                         |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System Information</b>      | This section lists the primary hardware features of your computer.<br>The options are: <ul style="list-style-type: none"><li>• <b>System Information</b></li><li>• <b>Memory Configuration</b></li><li>• <b>Processor Information</b></li><li>• <b>Device Information</b></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.<br>The options are: <ul style="list-style-type: none"><li>• <b>Windows Boot Manager</b></li><li>• <b>Boot List Option-UEFI is the enabled by default.</b></li></ul>                      |
| <b>UEFI Boot Path Security</b> | Allows you to control whether the system prompts the user to enter the Admin password when booting to a UEFI boot path.                                                                                                                                                             |

**Table 23. General (continued)**

| Option           | Description                                                                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p>Click one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Always, Except Internal HDD</b>—Default</li> <li>• <b>Always</b></li> <li>• <b>Never</b></li> </ul> |
| <b>Date/Time</b> | <p>Allows you to set the date and time. The change to the system date and time takes effect immediately.</p>                                                                               |

## System configuration

**Table 24. System Configuration**

| Option                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SATA Operation</b>                     | <p>Allows you to configure the operating mode of the integrated SATA hard-drive controller.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b></li> <li>• <b>AHCI</b>—Default</li> <li>• <b>RAID-ON</b>-Default</li> </ul>                                                                                                                                                                                                  |
| <b>Drives</b>                             | <p>These fields let you enable or disable various drives on board.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>SATA-2</b></li> <li>• <b>M.2 PCIe SSD-0</b></li> </ul>                                                                                                                                                                                                                                                                                |
| <b>SMART Reporting</b>                    | <p>This field controls whether hard drive errors for integrated drives are reported during startup.</p> <p>The option is disabled by default.</p>                                                                                                                                                                                                                                                                                                                                |
| <b>USB Configuration</b>                  | <p>Allows you to enable or disable the internal/integrated USB configuration.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>Enable USB Boot Support</b></li> <li>• <b>Enable External USB Ports</b></li> </ul> <p>All the options are set by default.</p> <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>Allows you to connect to Dell WD and TB family of docks (Type-C Docks) independent of USB and Thunderbolt adapter configuration.</p> <p>This option is enabled by default.</p>                                                                                                                                                                                                                                                                                                |
| <b>Thunderbolt™ Adapter Configuration</b> | <p>Allows you to enable or disable Thunderbolt options:</p> <ul style="list-style-type: none"> <li>• <b>Thunderbolt (Enabled by Default)</b></li> <li>• <b>Enable Thunderbolt Boot Support</b></li> <li>• <b>Enable Thunderbolt (and PCIe behind TBT) Pre-boot</b></li> </ul> <p>With following security levels :</p> <ul style="list-style-type: none"> <li>• <b>No Security</b></li> <li>• <b>User Authentication (Enabled by Default)</b></li> </ul>                          |

**Table 24. System Configuration (continued)**

| Option                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | <ul style="list-style-type: none"> <li>• <b>Secure Connect</b></li> <li>• <b>Display Port and USB Only</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Thunderbolt™ Auto Switch</b>              | <p>This option configures the method used by the Thunderbolt controller to perform PCIe device enumeration.</p> <ul style="list-style-type: none"> <li>• <b>Auto Switch</b> : The BIOS will automatically switch between BIOS Assist and Native Thunderbolt PC device enumeration modes to get all benefits of the installed OS</li> <li>• <b>Native Enumeration</b>: The BIOS will program the Thunderbolt controller to Native mode ( Auto Switching is disabled)</li> <li>• <b>BIOS Assist Enumeration</b>: The BIOS will program the Thunderbolt controller to BIOS Assist mode ( Auto Switching is disabled)</li> </ul> <p> <b>NOTE:</b> A reboot is required for these changes to take effect.</p> |
| <b>USB PowerShare</b>                        | <p>This option enables/disables the USB PowerShare feature behavior.</p> <p>This option is disabled by default.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Audio</b>                                 | <p>Allows you to enable or disable the integrated audio controller. By default, the <b>Enable Audio</b> option is selected.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>Enable Microphone</b></li> <li>• <b>Enable Internal Speaker</b></li> </ul> <p>This option is set by default.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Keyboard Illumination</b>                 | <p>This field lets you choose the operating mode of the keyboard illumination feature.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>: The Keyboard illumination will always be off or 0%.</li> <li>• <b>Dim</b>: Enable the keyboard illumination feature at 50% brightness.</li> <li>• <b>Bright</b>: Enable the keyboard illumination feature at 100% brightness level.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Keyboard Backlight Timeout on AC</b>      | <p>This feature defines the timeout value for the keyboard backlight when an AC adapter is plugged into the system.</p> <p>Options are:</p> <ul style="list-style-type: none"> <li>• <b>5 seconds</b></li> <li>• <b>10 seconds</b> (Default)</li> <li>• <b>15 seconds</b></li> <li>• <b>30 seconds</b></li> <li>• <b>1 minute</b></li> <li>• <b>5 minutes</b></li> <li>• <b>15 minutes</b></li> <li>• <b>Never</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                             |
| <b>Keyboard Backlight Timeout on Battery</b> | <p>This feature defines the timeout value for the keyboard backlight when the system is running only on battery power.</p> <p>Options are:</p> <ul style="list-style-type: none"> <li>• <b>5 seconds</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 24. System Configuration (continued)**

| Option                       | Description                                                                                                                                                                                                                                                                                                                     |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | <ul style="list-style-type: none"> <li>• <b>10 seconds</b>(Default)</li> <li>• <b>15 seconds</b></li> <li>• <b>30 seconds</b></li> <li>• <b>1 minute</b></li> <li>• <b>5 minutes</b></li> <li>• <b>15 minutes</b></li> <li>• <b>Never</b></li> </ul>                                                                            |
| <b>Touchscreen</b>           | <p>This option controls whether the touchscreen is enabled or disabled.</p> <p>This option is enabled by default.</p>                                                                                                                                                                                                           |
| <b>Unobtrusive Mode</b>      | <p>When enabled, pressing Fn+F7 will turn off all light and sound emissions in the system. Press Fn+F7 to resume normal operation.</p> <p>Default is Disabled.</p>                                                                                                                                                              |
| <b>Fingerprint Reader</b>    | <p>Enable or disable the Fingerprint Reader or the Fingerprint Reader Device's Single Sign On capability.</p> <ul style="list-style-type: none"> <li>• <b>Enable Fingerprint Reader Device:</b> Enabled by Default</li> <li>• <b>Enable Fingerprint Reader Single Sign On:</b> Enabled by Default</li> </ul>                    |
| <b>Miscellaneous devices</b> | <p>Allows you to enable or disable various on board devices.</p> <ul style="list-style-type: none"> <li>• <b>Enable Camera</b>—Default</li> <li>• <b>Enable Secure Digital (SD) Card</b></li> <li>• <b>Secure Digital (SD) Card Boot</b>—Disabled</li> <li>• <b>Secure Digital Card (SD) Read-Only Mode</b>—Disabled</li> </ul> |

## Video screen options

**Table 25. Video**

| Option                           | Description                                                                                                                            |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>LCD Brightness</b>            | <p>Allows you to set the display brightness depending upon the power source. On Battery (50% is default) and On AC (100% default).</p> |
| <b>Dynamic Backlight Control</b> | <p>This option enables or disables the Dynamic Backlight Control if the panel supports the feature.</p>                                |

## Security

**Table 26. Security**

| Option                | Description                                                                                                                                                                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Admin Password</b> | <p>Allows you to set, change, or delete the administrator (admin) password.</p> <p>The entries to set the password are:</p> <ul style="list-style-type: none"> <li>• <b>Enter the old password:</b></li> <li>• <b>Enter the new password:</b></li> <li>• <b>Confirm new password:</b></li> </ul> |

**Table 26. Security (continued)**

| Option                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      | <p>Click <b>OK</b> once you set the password.</p> <p> <b>NOTE:</b> For the first time login, "Enter the old password:" field is marked to "Not set". Set the password for the first time and later you can change or delete the password.</p>                                                                                                                                                                                                                                                                                   |
| <b>System Password</b>               | <p>Allows you to set, change, or delete the System password.</p> <p>The entries to set the password are:</p> <ul style="list-style-type: none"> <li>• <b>Enter the old password:</b></li> <li>• <b>Enter the new password:</b></li> <li>• <b>Confirm new password:</b></li> </ul> <p>Click <b>OK</b> once you set the password.</p> <p> <b>NOTE:</b> For the first time login, "Enter the old password:" field is marked to "Not set". Set the password for the first time and later you can change or delete the password.</p> |
| <b>Strong Password</b>               | <p>Allows you to enforce the option to always set the strong password.</p> <ul style="list-style-type: none"> <li>• <b>Enable Strong Password</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Password Configuration</b>        | <p>You can define the length of your password. Min = 4, Max = 32</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Password Bypass</b>               | <p>Allows you to bypass the System password and the Internal HDD password, when it is set, during a system restart.</p> <p>Click one of the options:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—Default</li> <li>• <b>Reboot bypass</b></li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| <b>Password Change</b>               | <p>Allows you to change the System password when the administrator password is set.</p> <ul style="list-style-type: none"> <li>• <b>Allow Non-Admin Password Changes</b></li> </ul> <p>This option is set by default.</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.</p> <ul style="list-style-type: none"> <li>• <b>Allow Wireless Switch Changes</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                                       |
| <b>UEFI Capsule Firmware Updates</b> | <p>Allows you to update the system BIOS via UEFI capsule update packages.</p> <ul style="list-style-type: none"> <li>• <b>Enable UEFI Capsule Firmware Updates</b></li> </ul> <p>This option is set by default.</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>TPM 2.0 Security</b>              | <p>Allows you to enable or disable the Trusted Platform Module (TPM) during POST.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>TPM On</b>—Default</li> <li>• <b>Clear</b></li> <li>• <b>PPI Bypass for Enable Command</b>—Default</li> <li>• <b>PPI Bypass for Disable Command</b></li> <li>• <b>PPI Bypass for Clear Command</b></li> <li>• <b>Attestation Enable</b>—Default</li> <li>• <b>Key Storage Enable</b>—Default</li> <li>• <b>SHA-256</b>—Default</li> </ul>                                                                                                              |

**Table 26. Security (continued)**

| Option                         | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Absolute®</b>               | This field lets you Enable, Disable, or Permanently Disable the BIOS module interface of the optional Absolute Persistence Module service from Absolute® Software.                                                                                                                                                                                                                                                   |
| <b>OROM Keyboard Access</b>    | <p>This option determines whether users are able to enter Option ROM Configuration screens via hotkey during boot. Specifically this settings is capable of preventing access to Intel® RAID (Ctrl+I) or Intel® Management Engine BIOS Extension (Ctrl+P/F12).</p> <p>Options are:</p> <ul style="list-style-type: none"> <li>• <b>Enable</b></li> <li>• <b>One Time Enable</b></li> <li>• <b>Disable</b></li> </ul> |
| <b>Admin Setup Lockout</b>     | <p>Allows you to prevent users from entering Setup when an administrator password is set.</p> <ul style="list-style-type: none"> <li>• <b>Enable Admin Setup Lockout</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                                        |
| <b>Master Password Lockout</b> | <p>Allows you to disable master password support.</p> <ul style="list-style-type: none"> <li>• <b>Enable Master Password Lockout</b></li> </ul> <p>This option is not set by default.</p> <p> <b>NOTE:</b> Hard Disk password should be cleared before the settings can be changed.</p>                                             |
| <b>SMM Security Mitigation</b> | <p>Allows you to enable or disable additional UEFI SMM Security Mitigation protection.</p> <ul style="list-style-type: none"> <li>• <b>SMM Security Mitigation</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                                              |

## Secure Boot

**Table 27. Secure Boot**

| Option                       | Description                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Secure Boot Enable</b>    | <p>Allows you to enable or disable the Secure Boot Feature.</p> <ul style="list-style-type: none"> <li>• <b>Secure Boot Enable</b>—Default</li> </ul>                                                                                                                                                                                                                           |
| <b>Secure Boot Mode</b>      | <p>Changes to the Secure Boot operation mode modifies the behaviour of Secure Boot to allow evaluation of UEFI driver signatures.</p> <p>Choose one of the option:</p> <ul style="list-style-type: none"> <li>• <b>Deployed Mode</b>—Default</li> <li>• <b>Audit Mode</b></li> </ul>                                                                                            |
| <b>Expert Key Management</b> | <p>Allows you to enable or disable Expert Key Management.</p> <ul style="list-style-type: none"> <li>• <b>Enable Custom Mode</b></li> </ul> <p>This option is not set by default.</p> <p>The Custom Mode Key Management options are:</p> <ul style="list-style-type: none"> <li>• <b>PK</b>—Default</li> <li>• <b>KEK</b></li> <li>• <b>db</b></li> <li>• <b>dbx</b></li> </ul> |

## Intel Software Guard Extensions options

Table 28. Intel Software Guard Extensions

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

## Performance

Table 29. Performance

| Option               | Description                                                                                                                                                                                                                                                                            |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multi Core Support   | <p>This field specifies whether the processor has one or all cores enabled. The performance of some applications improves with the additional cores.</p> <ul style="list-style-type: none"><li>• <b>All</b>—Default</li><li>• <b>1</b></li><li>• <b>2</b></li><li>• <b>3</b></li></ul> |
| Intel SpeedStep      | <p>Allows you to enable or disable the Intel SpeedStep mode of processor.</p> <ul style="list-style-type: none"><li>• <b>Enable Intel SpeedStep</b></li></ul> <p>This option is set by default.</p>                                                                                    |
| C-States Control     | <p>Allows you to enable or disable the additional processor sleep states.</p> <ul style="list-style-type: none"><li>• <b>C states</b></li></ul> <p>This option is set by default.</p>                                                                                                  |
| Intel® TurboBoost™   | <p>This option enables or disables the Intel® TurboBoost™ mode of the processor</p>                                                                                                                                                                                                    |
| Hyper-Thread Control | <p>Allows you to enable or disable the HyperThreading in the processor.</p> <ul style="list-style-type: none"><li>• <b>Disabled</b></li><li>• <b>Enabled</b>—Default</li></ul>                                                                                                         |

## Power management

Table 30. Power Management

| Option                                       | Description                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC Behavior</b>                           | <p>Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected.</p> <ul style="list-style-type: none"> <li>• <b>Wake on AC</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                       |
| <b>Enable Intel Speed Shift technology</b>   | <p>This option is used to enable/disable Intel Speed Shift Technology.</p> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                                     |
| <b>Auto On Time</b>                          | <p>Allows you to set the time at which the computer must turn on automatically.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—Default</li> <li>• <b>Every Day</b></li> <li>• <b>Weekdays</b></li> <li>• <b>Select Days</b></li> </ul> <p>This option is not set by default.</p>                                                                                   |
| <b>USB Wake Support</b>                      | <p>Allows you to enable USB devices to wake the system from standby.</p> <ul style="list-style-type: none"> <li>• <b>Enable USB Wake Support</b></li> <li>• <b>Wake on Dell USB-C Dock</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                          |
| <b>Wireless Radio Control</b>                | <p>This option if enabled, will sense the connection of the system to a wired network and subsequently disable the selected wireless radios (WLAN and/or WWAN). Upon disconnection from the wired network the selected wireless radio will ne enabled.</p> <ul style="list-style-type: none"> <li>• <b>Control WLAN radio</b></li> </ul> <p>This option is not set by default.</p>                       |
| <b>Block Sleep</b>                           | <p>This option lets you to block entering to sleep in operating system environment.</p> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                        |
| <b>Peak Shift</b>                            | <p>Allows you enable of disable the Peak shift feature. This feature when enabled, minimizes the AC power usage at times of peak demand. Battery does not charge between the Peak Shift start and end time.</p> <p>Peak Shift Start and End Time can be configured for all weekdays</p> <p>This option set the battery threshold value (15% to 100%)</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>Advanced Battery Charge Mode can be configured for all weekdays</p>                                                                                                            |
| <b>Primary Battery Charge Configuration</b>  | <p>Allows you to select the charging mode for the battery.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>Adaptive</b>—Default</li> <li>• <b>Standard</b>—Fully charges your battery at a standard rate.</li> <li>• <b>ExpressCharge</b>—The battery charges over a shorter period of time using Dell's fast charging technology.</li> <li>• <b>Primarily AC use</b></li> </ul> |

**Table 30. Power Management (continued)**

| Option | Description                                                                                                                                                                                                                                                                                                                                    |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <ul style="list-style-type: none"> <li>• <b>Custom</b></li> </ul> <p>If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop.</p> <p> <b>NOTE:</b> All charging modes may not be available for all the batteries.</p> |

## Post behavior

**Table 31. POST Behavior**

| Option                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Adapter Warnings</b>        | <p>Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters.</p> <ul style="list-style-type: none"> <li>• <b>Enable Adapter Warnings</b>—Default</li> </ul>                                                                                                                                                                                                                                                                                              |
| <b>Numlock Enable</b>          | <p>Allows you to enable or disable the Numlock function when the system boots.</p> <ul style="list-style-type: none"> <li>• <b>Enable Numlock</b>—Default</li> </ul>                                                                                                                                                                                                                                                                                                                                         |
| <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 dynamically toggle the primary behavior of these keys.</p> <ul style="list-style-type: none"> <li>• <b>Fn Lock</b>—Default</li> </ul> <p>Click one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Lock Mode Disable/Standard</b></li> <li>• <b>Lock Mode Enable/Secondary</b>—Default</li> </ul> |
| <b>Fastboot</b>                | <p>Allows you to speed up the boot process by bypassing some of the compatibility steps.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Minimal</b>—Default</li> <li>• <b>Thorough</b></li> <li>• <b>Auto</b></li> </ul>                                                                                                                                                                                                                                         |
| <b>Extended BIOS POST Time</b> | <p>Allows you to create an additional preboot delay.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>0 seconds</b>—Default</li> <li>• <b>5 seconds</b></li> <li>• <b>10 seconds</b></li> </ul>                                                                                                                                                                                                                                                                    |
| <b>Full Screen Logo</b>        | <p>Allows you to display full screen logo, if your image matches screen resolution.</p> <ul style="list-style-type: none"> <li>• <b>Enable Full Screen Logo</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                                         |
| <b>Warnings and Errors</b>     | <p>Allows you to select different options to either stop, prompt and wait for user input, continue when warnings are detected but pause on errors, or continue when either warnings or errors are detected during the POST process.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Prompt on Warnings and Errors</b>—Default</li> <li>• <b>Continue on Warnings</b></li> <li>• <b>Continue on Warnings and Errors</b></li> </ul>                                 |

**Table 31. POST Behavior (continued)**

| Option                        | Description                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sign of Life Indicator</b> | <p>This option allows the system to indicate during the POST that the power button has been acknowledged in a manner the user can either hear or feel.</p> <ul style="list-style-type: none"> <li>• <b>Enable Sign of Life Audio Indication</b></li> <li>• <b>Enable Sign of Life Display Indication</b></li> <li>• <b>Enable Sign of Life Keyboard Backlight Indication</b></li> </ul> |

## Manageability

**Table 32. Manageability**

| Option               | Description                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------|
| <b>USB Provision</b> | When enabled, Intel AMT can be provisioned using the local provisioning file through an USB storage device. |
| <b>MEBx Hotkey</b>   | This option specifies whether the MEBx Hotkey function should be enabled when the system boots.             |

## Virtualization support

**Table 33. Virtualization Support**

| Option                   | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Virtualization</b>    | <p>This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by the Intel Virtualization technology.</p> <ul style="list-style-type: none"> <li>• <b>Enable Intel Virtualization Technology</b></li> </ul> <p>This option is set by default.</p>                                                                                                            |
| <b>VT for Direct I/O</b> | <p>Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by the Intel Virtualization technology for direct I/O.</p> <ul style="list-style-type: none"> <li>• <b>Enable VT for Direct I/O</b></li> </ul> <p>This option is set by default.</p>                                                                                                                |
| <b>Trusted Execution</b> | <p>This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel® Trusted Execution Technology.</p> <p> <b>NOTE:</b> The TPM has to be enabled and activated and Virtualization Technology and VT for Direct I/O must be enabled to use this feature.</p> |

## Wireless options

**Table 34. Wireless**

| Option                 | Description                                                                                                                                                                                                                                        |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Wireless Switch</b> | <p>Allows you to set the wireless devices that can be controlled by the wireless switch.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>WWAN</b></li> <li>• <b>GPS (on WWAN Module)</b></li> <li>• <b>WLAN</b></li> </ul> |

**Table 34. Wireless (continued)**

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

## Maintenance

**Table 35. Maintenance**

| Option                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Service Tag</b>    | Displays the service tag of your computer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Asset Tag</b>      | <p>Allows you to create a system asset tag if an asset tag is not already set.</p> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>BIOS Downgrade</b> | <p>Allows you to flash previous revisions of the system firmware.</p> <ul style="list-style-type: none"> <li>• <b>Allow BIOS Downgrade</b></li> </ul> <p>This option is set by default.</p>                                                                                                                                                                                                                                                                                                                              |
| <b>Data Wipe</b>      | <p>Allows you to securely erase data from all internal storage devices.</p> <ul style="list-style-type: none"> <li>• <b>Wipe on Next Boot</b></li> </ul> <p>This option is not set by default.</p>                                                                                                                                                                                                                                                                                                                       |
| <b>BIOS Recovery</b>  | <p><b>BIOS Recovery from Hard Drive</b>—This option is set by default. Allows you to recover the corrupted BIOS from a recovery file on the HDD or an external USB drive.</p> <p><b>BIOS Auto-Recovery</b>— Allows you to recover the BIOS automatically.</p> <p> <b>NOTE:</b> <b>BIOS Recovery from Hard Drive</b> field should be enabled.</p> <p><b>Always Perform Integrity Check</b>—Performs integrity check on every boot.</p> |

## System logs

**Table 36. System Logs**

| Option                | Description                                                       |
|-----------------------|-------------------------------------------------------------------|
| <b>BIOS events</b>    | Allows you to view and clear the System Setup (BIOS) POST events. |
| <b>Thermal Events</b> | Allows you to view and clear the System Setup (Thermal) events.   |
| <b>Power Events</b>   | Allows you to view and clear the System Setup (Power) events.     |

# Updating the BIOS in Windows

## Prerequisites

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 before initiating a BIOS update.

## About this task

 **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.

 **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 Base Article: <https://www.dell.com/support/kbdoc/000134415/>.

## Steps

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 reinstall. For more information about this subject, see Knowledge Article: [Updating the BIOS on Dell Systems With BitLocker Enabled](#)

## Updating your system BIOS using a USB flash drive

### About this task

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 [How to Create a Bootable USB Flash Drive using Dell Diagnostic Deployment Package \(DDDP\)](#)

**Steps**

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 **Enter**.
6. The system will boot to a Diag C:\> prompt.
7. Run the file by typing the full filename, for example, O9010A12.exe and press **Enter**.
8. The BIOS Update Utility will load. Follow the instructions on screen.

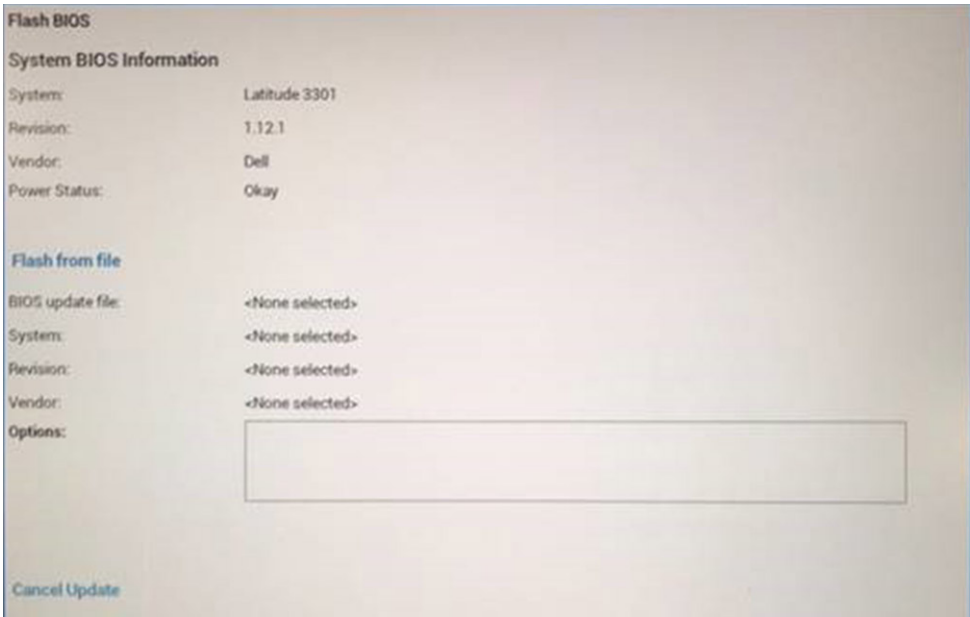


Figure 1. DOS BIOS Update Screen

# System and setup password

Table 37. 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.

**NOTE:** System and setup password feature is disabled.

# Assigning a system setup password

## Prerequisites

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

## About this task

To enter the system setup, press F2 immediately after a power-on or reboot.

## Steps

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

## Prerequisites

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

## About this task

To enter the System Setup, press **F2** immediately after a power-on or reboot.

## Steps

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 Setup password, confirm the deletion when prompted.
5. Press **Esc** and a message prompts you to save the changes.
6. Press **Y** to save the changes and exit from System Setup.  
The computer restarts.

# ExpressSign-in

On Dell Latitude systems, the proximity sensor is accessed when the system is ON or in the sleep mode. The valid state of the proximity sensor is **Near**, and **Enable with external monitor**. The proximity feature is automatically disabled while the laptop is in the On state, and the remaining battery of the laptop is less than 30 minutes.

## ExpressSign-in behavior in Near state

The following table explains the **Near** state behavior:

- NOTE:** The **Dell ExpressSign-in** user interface is the proximity sensor feature.
- NOTE:** In the **ExpressSign-in** window, click **Go** next to the **Setup facial recognition** field to start and setup the **Windows Hello facial sign-in** option.

Table 38. Near state behavior

| System state | Description                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ON/Standby   | Wakes up the system when the user is within the sensor Field of View (FoV) of the system during the ON state and the LED illuminates solid white light or in the standby state.<br><b>NOTE:</b> Sensor does not wake the system from the low power states which is battery life less than 30 minutes.<br><b>NOTE:</b> Sensor does not support wake the system from hibernation and power off state. |
| Off          | Does not wake the system from any of the power states even when the user is within the sensor Field of View (FoV).                                                                                                                                                                                                                                                                                  |

## ExpressSign-in with the external monitor usage state

You can select **ExpressSign-in enabled while connected to external monitor(s)** to **Yes** to keep the ExpressSign-in function still working even when the external monitor is connected. Select **No** to temporarily disable the ExpressSign-in functionality with the external monitor connected. The following table explains the **External monitor usage state behavior**:

Table 39. External monitor usage state behavior

| System state | Description                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------|
| Yes          | If the system is connected to an external monitor, the proximity sensor checks whether the user is within the sensor FoV. |
| No           | This is the default state and the system state remains unchanged even when the user is outside of sensor FoV.             |

## ExpressSign-in user interface in external monitor usage state

When one or more external monitor(s) are connected to the system and **Near** or **Away** state is enabled, the **Dell ExpressSign-in** window is displayed on the primary monitor, and you can select **Yes** or **No** to enable or disable the proximity sensor.

If you select **Yes**, the proximity sensor is enabled. If you select **No**, the proximity sensor is not enabled. If you select the **Do not show again** checkbox, a message that the user must be within the sensor FoV for the features to function properly is not displayed until the option is again enabled manually.

- NOTE:** If multiple monitors are connected, the **Dell ExpressSign-in** window is displayed only for the first external monitor that is connected to the system and not for the subsequent monitors.

## Launch Dell ExpressSign-in/Systray icon

The Dell ExpressSign-in application supports the auto-run feature only when the application stays in the system tray. Once you exit the Dell Proximity Sensor application, you have to re-launch the application and enable the feature manually. You can enable the **Systray** icon to start the **Dell ExpressSign-in** window from the system desktop after Dell Proximity Sensor has been launched.

To start the **Dell ExpressSign-in**, do the following:

1. Click **Windows Settings > System > Power & Sleep > Dell Proximity Sensor > Change PC behavior based on your proximity to the PC** to start the **Dell ExpressSign-in** window.
2. Click **Change PC Behavior based on your proximity to the PC** that is displayed at the bottom of the **Settings** screen.
3. You can also double-click **Systray** to start the **Dell ExpressSign-in** window.
4. Right-click **Systray** to view the context menu.

The options in the context menu are:

**Table 40. Context menu options**

| System state                           | Options                                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Near and Away</b>                   | <ul style="list-style-type: none"><li>• Select <b>Away</b> to enable the system lock and turn off the display when you move away from the system.</li><li>• Deselect <b>Near</b> to disable the system lock when you move away from the system.</li></ul> |
| <b>Enable with external monitor(s)</b> | <ul style="list-style-type: none"><li>• Select <b>Enable with external monitor(s)</b> to enable the ExpressSign-in.</li><li>• Deselect <b>Enable with external monitor(s)</b> to disable the ExpressSign-in.</li></ul>                                    |
| <b>Open application</b>                | Select to start the ExpressSign-in desktop application.                                                                                                                                                                                                   |
| <b>Quit</b>                            | Closes the ExpressSign-in desktop application and deletes the <b>Systray</b> icon from the system. Restart the ExpressSign-in from the operating system settings page or use the <b>Search</b> option to view and start the ExpressSign-in.               |

## Dell ExpressSign-in Field of View (FoV) states

The Field of View (FoV) defines the distance and the angle that the proximity sensor can detect while the proximity feature is enabled. The FoV includes range angle and range distance. Dell recommends the distance between you and the laptop display should be 70cm for optimum performance of the proximity sensor.

**Table 41. FoV states**

| Field name     | Description                                                                                                                                                        |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range angle    | The proximity sensor should function satisfactorily in detecting user presence / absence within a <b>27°</b> conical range as defined by the center of the target. |
| Range distance | The proximity sensor should function satisfactorily in detecting user presence / absence <b>&lt;100cm</b> away                                                     |

## Lock timer

The lock timer is the approximate time for **Dell Express Sign-in** to identify that the user is no longer in front of the system or within the FoV. This feature will recognize your physical absence and lock the system.

The lock timer values are 60 seconds (default), 90 seconds, and 120 seconds. If **Away** is set to **OFF**, the Lock timer option is grayed out.

# Supported hinge angles

The ExpressSign-in works as configured in a supported four hinge angles for a particular mode. The ExpressSign-in does not change the existing state if you are within the sensor FoV for an unsupported hinge angle. Once the system is in the supported hinge angle, the ExpressSign-in will start to change the state. The supported hinge angles are:

Table 42. Supported hinge angles

| System with status | Supported hinge angle | Illustration                                                                          |
|--------------------|-----------------------|---------------------------------------------------------------------------------------|
| Clamshell          | 60° to 150°           |    |
| Stand              | 210° to 300°          |   |
| Tablet             | Not supported         |  |
| Tent               | Not supported         |  |

# Software

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

## Topics:

- [Downloading Windows drivers](#)

## Downloading Windows drivers

### Steps

1. Turn on the laptop.
2. Go to [Dell.support.com](https://Dell.support.com).
3. Click **Product Support**, enter the Service Tag, and then click **Submit**.

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

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

# Getting help

## Topics:

- [Contacting Dell](#)

## Contacting Dell

### Prerequisites

 **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.

### About this task

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:

### Steps

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.