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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Turning off Your Computer

⚠️ **CAUTION:** To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

You can turn off your computer in two ways:

1. Using the power button
2. Using the charms menu

**Using power button**

1. Press and hold the **Power** button to turn off the screen.

**Using charms**

1. Swipe from the right edge of the display to access the **Charms** menu.
2. Touch **Settings** —> **Power** —> **Shut down** to turn off the computer.

Before working inside your computer

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer.
3. If the computer is connected to a docking device (docked), undock it.
4. Disconnect all network cables from the computer (if available).
   ⚠️ **CAUTION:** If your computer has an RJ45 port, disconnect the network cable by first unplugging the cable from your computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Open the display.
7. Press and hold the power button for few seconds, to ground the system board.
   ⚠️ **CAUTION:** To guard against electrical shock unplug your computer from the electrical outlet before performing Step # 8.
   ⚠️ **CAUTION:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface at the same time as touching a connector on the back of the computer.
8. Remove any installed ExpressCards or Smart Cards from the appropriate slots.

After working inside your computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

⚠️ **CAUTION:** To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.
CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.

3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.
Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- T5 Torx screwdriver
- Small plastic scribe

Removing the Base Cover

1. Follow the procedures in Before Working Inside Your Computer.
2. Close the display and turn the computer over.
3. Turn the system badge flap over (1) and then remove the screws that secure the base cover to the computer (2).

**NOTE:** Use a Torx #5 screwdriver for the base screws and a Phillips screwdriver for the screws inside the badge flap.

4. Pry the edges base cover and lift it to remove it from computer.
Installing the Base Cover

1. Place the base cover on the computer and snap it in place.
2. Tighten the screws to secure the base cover to the computer.
   
   **NOTE:** Ensure you use a Torx #5 screwdriver for the base screws and a Philips screwdriver for the system badge screws.
3. Turn the system badge flap over and snap it in place.
4. Follow the procedures in After Working Inside Your Computer.

Removing the Battery

**NOTE:** Discharge the battery as much as possible before removing from the system. This can be done by disconnecting the A/C adapter from the system (while the system is turned on) to allow the system to drain the battery.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the base cover.
3. Perform the following steps to remove the battery:
   a) Disconnect the battery cable from the system board [1].
   b) Remove the screws that secure the battery to the computer [2].
   c) Lift the battery off the computer [3].
   • **Do not** apply pressure to the surface of the battery
   • **Do not** bend
   • **Do not** use tools of any kind to pry on or against the battery
   • If a battery cannot be removed within the constraints above, please contact Dell technical support
Installing the Battery

1. Place and align the battery in the battery bay.
2. Tighten the screws that secure the battery to the computer.
3. Connect the battery cable to the system board.
4. Install the base cover.
5. Follow the procedures in After Working Inside Your Computer.

Removing the Hard Drive

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
3. Perform the following steps to remove the hard-drive bracket from the computer:
   a) Remove the screws securing the hard-drive bracket to the computer [1].
   b) Lift the hard-drive bracket off the computer [2].
4. Perform the following steps to remove the hard-drive:
   a) Disconnect the hard-drive cable from the system board [1].
   b) Lift the hard drive off the computer [2].
5. Remove the data-cable connector [1] and then slide out the two end brackets [2].

Installing the Hard Drive

1. Replace the hard-drive covers on the hard drive.
2. Connect the hard-drive interposer to the hard-drive assembly.
3. Place the hard-drive assembly on the palm-rest assembly.
4. Connect the hard-drive cable to the system board.
5. Align the screw holes on the hard-drive cage with the screw holes on the hard-drive assembly.
6. Replace the screws that secure the hard-drive cage to the palm-rest assembly.
7. Install the:
   a) battery
   b) base cover
8. Follow the procedures in After Working Inside Your Computer.

Removing the Solid-State Drive (half-length)

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
3. Remove the screw that secures the solid-state drive assembly to the system board [1, 2].
4. Lift and slide the solid-state drive assembly from the system board [3].

5. Remove the screw that secures the solid-state drive to the solid-state drive bracket [1, 2, 3].
6. Lift the solid-state drive off the solid-state drive bracket.

**Installing the Solid-State Drive (half-length)**

1. Align the screw hole on the solid-state drive bracket with the screw hole on the solid-state drive.
2. Replace the screw that secures the solid-state drive to the solid-state drive bracket.
3. Align the notches on the solid-state drive assembly with the tabs in the solid-state drive slot.
4. Slide the solid-state drive assembly at an angle into the solid-state drive slot.
5. Press the other end of the solid-state drive down and replace the screw that secures the solid-state drive to the system board.
6. Install the:
   a) battery
   b) base cover
7. Follow the procedures in *After Working Inside Your Computer*.

**Removing the Solid-State Drive (full-length)**

1. Follow the procedures in *Before Working Inside Your Computer*
2. Remove the:
   a) base cover
   b) battery
3. Remove the screw that secures the solid-state drive to the system board.

4. Remove the thermal pad from the SSD.

   ![Image of solid-state drive with thermal pad](image)

   **NOTE:** The thermal pad is applicable only for a PCIe SSD card.

---

**Installing the Solid-State Drive (full-length)**

1. Adhere the thermal pad to the solid-state drive.

   ![Image of thermal pad adhered to solid-state drive](image)

   **NOTE:** The thermal pad is applicable only for a PCIe SSD card.

2. Slide the solid-state drive at an angle into the solid-state drive slot.

3. Press the other end of the solid-state drive down and replace the screw that secures the solid-state drive to the system board.

4. Install the:
   a) battery
   b) base cover

5. Follow the procedures in *After Working Inside Your Computer.*
Removing the Speakers

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover  
   b) battery
3. Perform the following steps to remove the speaker:
   a) Disconnect the speaker cable from the system board [1].
   b) Remove the screws that secure the speakers to the computer [2].
   c) Lift the speakers, along with the speaker cable, off the computer [3].

Installing the Speakers

1. Using the alignment posts, place the speakers on the palm-rest assembly.
2. Replace the screws that secure the speakers to the palm-rest assembly.
3. Route the speaker cables through the routing guides on the palm-rest assembly.
4. Connect the speaker cable to the system board.
5. Install the:
   a) battery  
   b) base cover
6. Follow the procedures in After Working Inside Your Computer.

Removing the WLAN Card

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover  
   b) battery
3. Perform the following steps to remove the WLAN card:
   a) Remove the screw to release the bracket that secures the WLAN card to the computer [1] and lift the bracket away from the computer [2].
   b) Disconnect the antenna cables from the WLAN card [3].
   c) Slide and remove the WLAN card from its connector on the board [4].
Installing the WLAN Card

1. Align the notch on the WLAN card with the tab on the WLAN-card connector on the I/O board.
2. Align the bracket which secures the WLAN card to the palmrest assembly.
3. Connect the antenna cables to the WLAN card.

⚠️ **CAUTION:** To avoid damage to the WLAN card, do not place any cables under it.

⚠️ **NOTE:** The color of the antenna cables is visible near the tip of the cables. The antenna-cable color scheme for the WLAN card supported by your computer is as follows:

<table>
<thead>
<tr>
<th>Connectors on the WLAN card</th>
<th>Antenna-cable color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main (white triangle)</td>
<td>white</td>
</tr>
<tr>
<td>Auxiliary (black triangle)</td>
<td>black</td>
</tr>
<tr>
<td>Multiple input, multiple output (grey triangle)</td>
<td>Grey (optional)</td>
</tr>
</tbody>
</table>

4. Tighten the screw to secure the bracket and the WLAN card to the palmrest assembly.
5. Install the:
   a) battery
   b) base cover
6. Follow the procedures in *After Working Inside Your Computer.*

Removing the Fans

1. Follow the procedures in *Before Working Inside Your Computer.*
2. Remove the:
   a) base cover
   b) battery
3. Perform the following steps to remove the left video-card fan:
   a) Un-thread the LVDS cable from its restraints [1] and [2].
   b) Disconnect the fan cable from the system board [3].
   c) Remove the screws that secure the fan to the computer [4].
   d) Lift the fan away from the computer [5].
4. Perform the following steps to remove the right system fan:
   a) Un-thread the LVDS cable from its restraints [1].
   b) Disconnect the fan cable from the system board [2].
   c) Remove the screws that secure the fan to the computer [3].
   d) Lift the fan away from the computer [4].

Installing the Fans

1. Perform the following steps to install the system fan:
   a) Align the screw holes on the left fan with the screw holes on the palm-rest assembly.
   b) Connect the left fan cable to the system board.
   c) Route the display cable through the routing guides on the left fan.
   d) Replace the screws that secure the left fan to the system board.
   e) Connect the right fan cable to the system board.
   f) Route the touch-screen cable through the routing guides on the right fan.
   g) Adhere the tape that secures the touch-screen cable to the right fan.
   h) Connect the display cable to the system board.
   i) Replace the screws that secure the right fan to the system board.

2. Follow the procedures in After Working Inside Your Computer.
Removing the Heatsink

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
3. Remove the screws that secure the heatsink to the system board.
4. Lift the heatsink off the computer.

Installing the Heatsink

1. Align the screw holes on the heatsink with the screw holes on the system board.
2. Replace the screws to secure the heatsink to the system board.
3. Install the:
   a) battery
   b) base cover
4. Follow the procedures in After Working Inside Your Computer.
Removing the Memory Module(s)

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
3. Pry the securing clips away from the memory module until it pops-up. Remove the memory module from its connector on the system board.

Installing the Memory Module(s)

1. Insert the memory module into the memory socket.
2. Press the memory module down until it clicks into place.
   
   **NOTE:** If you do not hear the click, remove the memory module and re-install it.
3. Install the:
   a) battery
   b) base cover
4. Follow the procedures in After Working Inside Your Computer.

Removing the System Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
   c) fans
   d) heatsink
   e) SSD
   f) memory modules

   **NOTE:** Your computer’s Service Tag is located under the system badge flap. You must enter the Service Tag in the BIOS after you replace the system board.

   **NOTE:** Before disconnecting the cables from the system board, note the location of the connectors so that you can re-connect them correctly after you replace the system board.
3. Remove the screw securing the metal bracket for the LVDS to the system board [1] and remove the bracket off the computer [2]. Then, disconnect the LVDS cable from the system board [3].

4. Slide out the connector latches to disconnect all the cables from the system board.

5. Perform the following steps to remove the system board from the computer:
   a) Remove the screws that secure the system board to the computer [1].
   b) Lift the system board off the computer [2].
Installing the System Board

1. Align the system board on the computer.
2. Replace the screws that secure the system board to the palm-rest assembly.
3. Connect the power-adapter port cable, speaker cable, keyboard-control board cable, touch-pad cable, and touch-screen cable to the system board.
4. Connect the display cable to the system board.
5. Align the screw hole on the display-cable bracket with the screw hole on the system board.
6. Follow the procedures in After Working Inside Your Computer.

Removing the Audio Daughter Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
   c) WLAN card
   d) hard drive
   e) SSD (half length)
   f) SSD (full length)
   g) fans
   h) heatsink
   i) memory modules
   j) system board
3. Remove the two screws that secure the audio daughter board to the system board.
4. Flip the system board over, then lift the audio daughter board from the system board.

**Installing the audio daughter board**

1. Align the screw holes on the audio daughter board with the screw holes on the system board.
2. Flip the system board over, then replace the screws that secure the audio daughter board to the system board.
3. Install the:
   a) system board
   b) memory modules
   c) heat-sink assembly
   d) fans
   e) solid-state drive (half-length)
   f) solid-state drive (full-length)
   g) hard drive
   h) wireless card
   i) battery
4. Follow the procedures in After Working Inside Your Computer.

Removing the Keyboard

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
   c) fans
   d) heatsink
   e) SSD
   f) memory modules
   g) system board
3. Perform the following steps to disconnect the keyboard and backlight connectors from the computer.
   a) Lift up the connector lock [1] and the disconnect the cables from the connectors [2].
   b) Peel back the screw shields [3].
4. Un-route the LVDS cable [1] and then remove the screws that secure the keyboard to the computer [2].
5. Lift and remove the keyboard from the computer.
Installing the Keyboard

1. Adhere the Mylar to the keyboard.
2. Align the screw holes on the keyboard with the screw holes on the palm-rest assembly.
3. Replace the screws that secure the keyboard to the palm-rest assembly.
4. Adhere the Mylar to the screws that secure the keyboard to the palm-rest assembly.
5. Connect the keyboard cable and keyboard-backlight cable to the keyboard-controls board.
6. Install the:
   a) system board
   b) hard drive
   c) base cover
7. Follow the procedures in After Working Inside Your Computer.

Removing the Display Assembly

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
3. Perform the following steps:
   a) Disconnect the left LVDS cable [1].
   b) Remove the screw securing the metal bracket [2] and lift the bracket off the computer [3].
   c) Disconnect the right LVDS cable from the system board [4].
4. Place the computer at the edge of a table as shown and remove the screws [1] securing the display assembly to the computer. Then, lift the display assembly off the computer [2].

Installing the Display Assembly

1. Place the palm-rest assembly at the edge of the table with the speakers facing away from the edge.
2. Align the screw holes on the palm-rest assembly with the screw holes on the display hinges.
3. Replace the screws that secure the display hinges to the palm-rest assembly.
4. Adhere the tape and route the touch-screen cable through the routing guides on the fan.
5. Connect the touch-screen cable and display cable to the system board.
6. Replace the screw that secures the display-cable bracket to the system board.
7. Follow the procedures in *After Working Inside Your Computer*.

**Removing the DC-in Connector**

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the:
   a) base cover
   b) battery
3. Perform the following steps to remove the I/O board:
   a) Disconnect the DC-in cable from the system board [1].
   b) Remove the screw that secures the DC-in cable to the computer.
   c) Remove the DC-in connector from the computer.

**Installing the DC-in Adapter Port**

1. Place the DC-in adapter port into the slot on the palm-rest assembly.
2. Route the power-adapter port cable through its routing guides on the palm-rest assembly.
3. Replace the screw that secures the power-adapter port to the palm-rest assembly.
4. Connect the power-adapter port cable to the system board.
5. Install the:
   a) battery
   b) base cover
6. Follow the procedures in *After Working Inside Your Computer*.

**Removing the antenna cover**

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the:
   a) base cover
   b) battery
   c) WLAN Card
3. Carefully turn the display hinges at an angle.

Figure 1. Turning the display hinge

- display assembly
- display hinges (2)

4. Slide and lift the antenna cover away from the display assembly.

Figure 2. Removing the antenna cover

- display assembly
- antenna cover

Installing the antenna cover

1. Replace the antenna cover on the display assembly.
2. Turn the display hinges to the normal position.
3. Install the:
   - display assembly
   - wireless card
   - battery
   - base cover
4. Follow the procedures in After Working Inside Your Computer.
Removing the display hinges

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover  
   b) battery  
   c) WLAN Card  
   d) display assembly  
   e) antenna cover  
3. Peel off the tape to access the screws on the display hinges.

![Removing display hinges diagram]

- Tape
- Display hinges (2)

4. Remove the screws that secure the display hinges to the display assembly.
5. Carefully lift the display hinges off the display assembly.

![Removing display hinges diagram]

- Screws (6)
- Display hinges (2)

Installing the display hinges

1. Align the screw holes on the display hinges with the screw holes on the display assembly.
2. Replace the screws that secure the display hinges to the display assembly.
3. Adhere the tape to the display hinges.
4. Install the:
   a) antenna cover
   b) display assembly
   c) wireless card
   d) battery
   e) base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the antenna module

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a) base cover
   b) battery
   c) wireless card
   d) display assembly
   e) antenna cover
   f) display hinges
3. Peel the tape that covers the antenna cables.
4. Remove the screws that secure the antenna module to the display assembly.
5. Lift the antenna module away from the display assembly.

Installing the antenna module

1. Align the screw holes on the antenna module with the screw holes on the display assembly.
2. Replace the screws that secure the antenna module to the display assembly.
3. Adhere the tape that covers the antenna cable.
4. Install the:
   a) display hinges

---

Removing and installing components  27
b) antenna cover

c) display assembly

d) wireless card

e) battery

f) base cover

5. Follow the procedures in After Working Inside Your Computer.

Removing the palm-rest assembly

1. Follow the procedures in Before Working Inside Your Computer.

2. Remove the:
   a) base cover
   b) battery
   c) memory modules
   d) Follow the procedure from step 1 to step 4 in "Removing the hard drive"
   e) wireless card
   f) speakers
   g) heat-sink
   h) fans
   i) display assembly
   j) power-adapter port
   k) system board
   l) keyboard

After performing the steps in the prerequisites we are left with the palm-rest assembly.

Installing the palm-rest assembly

1. Place the palm-rest assembly on a clean and flat surface.

2. Install the:
   a) keyboard
   b) system board
   c) power-adapter port
   d) display assembly
   e) fans
   f) heat-sink assembly
   g) speakers
   h) wireless card
   i) Follow the procedure from step 3 to step 6 in "Replacing the hard drive".
j) memory modules  
k) battery  
l) base cover  

3. Follow the procedures in *After Working Inside Your Computer*. 

*Removing and installing components*  

29
System setup

System setup enables you to manage your tablet, desktop, notebook hardware and specify BIOS level options. From the System setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Topics:

- Boot Sequence
- Navigation keys
- System Setup Options
- Updating the BIOS in Windows
- System and setup password

Boot Sequence

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

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

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

- Removable Drive (if available)
- STX XXX Drive
  (NOTE: XXX denotes the SATA drive number.)
- Optical Drive (if available)
- Diagnostics
  (NOTE: Choosing Diagnostics, will display the ePSA diagnostics screen.)

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

Navigation keys

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

<table>
<thead>
<tr>
<th>Keys</th>
<th>Navigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up arrow</td>
<td>Moves to the previous field.</td>
</tr>
<tr>
<td>Down arrow</td>
<td>Moves to the next field.</td>
</tr>
<tr>
<td>Enter</td>
<td>Selects a value in the selected field (if applicable) or follow the link in the field.</td>
</tr>
<tr>
<td>Spacebar</td>
<td>Expands or collapses a drop-down list, if applicable.</td>
</tr>
<tr>
<td>Tab</td>
<td>Moves to the next focus area.</td>
</tr>
</tbody>
</table>

( NOTE: For the standard graphics browser only.)
System Setup Options

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

### Table 2. Main

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Time/Date</td>
<td>Allows you to set the date and time.</td>
</tr>
<tr>
<td>BIOS Version</td>
<td>Displays the BIOS version.</td>
</tr>
<tr>
<td>Product Name</td>
<td>Displays the product name.</td>
</tr>
<tr>
<td>Dell Precision M3800</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>Service Tag</td>
<td>Displays the service tag.</td>
</tr>
<tr>
<td>Asset Tag</td>
<td>Displays the asset tag.</td>
</tr>
<tr>
<td>None</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>CPU Type</td>
<td>Displays the CPU type.</td>
</tr>
<tr>
<td>CPU Speed</td>
<td>Displays the CPU speed.</td>
</tr>
<tr>
<td>CPU ID</td>
<td>Displays the CPU ID.</td>
</tr>
<tr>
<td>CPU Cache</td>
<td>Displays the sizes of the CPU caches.</td>
</tr>
<tr>
<td>Fixed HDD</td>
<td>Displays the type and size of the HDD.</td>
</tr>
<tr>
<td>WDC WD10SPCX-75HWSTO (1000 GB)</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>mSATA Device</td>
<td>Displays the type and size of the mSATA device.</td>
</tr>
<tr>
<td>AC Adapter Type</td>
<td>Displays the type of the AC adapter.</td>
</tr>
<tr>
<td>None</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>System Memory</td>
<td>Displays the size of the system memory.</td>
</tr>
<tr>
<td>Extended Memory</td>
<td>Displays the size of the extended memory.</td>
</tr>
<tr>
<td>Memory Speed</td>
<td>Displays the speed of the memory.</td>
</tr>
<tr>
<td>Keyboard Type</td>
<td>Displays the type of keyboard.</td>
</tr>
<tr>
<td>Backlite</td>
<td>(Default Setting)</td>
</tr>
</tbody>
</table>

### Table 3. Advanced

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel (R) SpeedStep (TM)</td>
<td>Allows you to enable or disable the Intel (R) SpeedStep (TM) feature.</td>
</tr>
<tr>
<td>Enabled</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>Virtualization</td>
<td>This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization technology. Allows you to enable or disable the Virtualization feature.</td>
</tr>
<tr>
<td>Enabled</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>USB Emulation</td>
<td>Allows you to enable or disable the USB Emulation feature.</td>
</tr>
<tr>
<td>Enabled</td>
<td>(Default Setting)</td>
</tr>
<tr>
<td>USB PowerShare</td>
<td>Allows you to enable or disable the USB PowerShare feature.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>USB Wake Support</td>
<td>This option allows you to enable USB devices to wake the system from Standby. <strong>Enabled</strong> (Default Setting)</td>
</tr>
<tr>
<td>Adapter Warnings</td>
<td>Allows you to enable or disable the adapter warnings feature. <strong>Disable</strong> (Default Setting)</td>
</tr>
<tr>
<td>Multimedia Key Behaviour</td>
<td><strong>Function Key</strong> (Default Setting)</td>
</tr>
<tr>
<td>Battery Health</td>
<td>Displays the battery health information.</td>
</tr>
<tr>
<td>Battery Charge Configuration</td>
<td><strong>Adaptive</strong> (Default Setting)</td>
</tr>
</tbody>
</table>
| Miscellaneous Devices        | Allows you to enable or disable the various on board devices. The options are:  
  - **External USB Ports** - **Enabled** (Default Setting)  
  - **USB Debug** - **Disabled** (Default Setting) |

**Table 4. Security**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlock Setup Status</td>
<td><strong>Unlocked</strong> (Default Setting)</td>
</tr>
</tbody>
</table>
| Admin Password Status        | Displays the status of the admin password.  
  Default Setting: **Not set** |
| System Password Status       | Displays the status of the system password.  
  Default Setting: **Not set** |
| HDD Password Status          | Displays the status of the system password.  
  Default Setting: **Not set** |
| Asset Tag                    | Allows you to set the asset tag. |
| Admin Password               | Allows you to set, change, or delete the administrator (admin) password.  
  **NOTE:** You must set the admin password before you set the system or hard drive password.  
  **NOTE:** Successful password changes take effect immediately.  
  **NOTE:** Deleting the admin password automatically deletes the system password and the hard drive password.  
  **NOTE:** Successful password changes take effect immediately. |
| System Password              | Allows you to set, change or delete the system password.  
  **NOTE:** Successful password changes take effect immediately. |
| HDD Password                 | Allows you to set, change or delete the administrator password. |
| Password Change              | Allows you to enable or disable permissions to set a System password and a Hard Drive password when the admin password is set.  
  Default Setting: **Permitted** |
| Computrace                   | Allows you to activate or disable the optional Computrace software. The options are:  
  - **Deactivate** (Default Setting)  
  - **Activate**  
  **NOTE:** The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed. |
TPM Security

This option lets you control whether the Trusted Platform Module (TPM) in the system is enabled and visible to the operating system. When disabled the BIOS will not turn On the TPM during POST. The TPM will be non-functional and invisible to the operating system. When enabled, the BIOS will turn On the TPM during POST so that it can be used by the operating system. This option is *Enable* by default.

*NOTE:* Disabling this option does not change any settings you may have made to the TPM, nor does it delete or change any information or keys you may have stored there. It simply turns Off the TPM so that it cannot be used. When you re-enable this option, the TPM will function exactly as it did before it was disabled.

*NOTE:* Changes to this option take effect immediately.

### Table 5. Boot

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boot List Option</strong></td>
<td>Default Setting: <em>Legacy</em></td>
</tr>
<tr>
<td><strong>Secure Boot</strong></td>
<td>This option enables or disables the Secure Boot feature.</td>
</tr>
<tr>
<td></td>
<td>• <em>Disabled</em> (Default Setting) - Windows 7</td>
</tr>
<tr>
<td></td>
<td>• <em>Enabled</em> - Windows 8.1</td>
</tr>
<tr>
<td><strong>Load Legacy Option ROM</strong></td>
<td>This option enables or disables the Load Legacy Option ROM feature.</td>
</tr>
<tr>
<td></td>
<td>• <em>Enabled</em> (Default Setting) - Windows 7</td>
</tr>
<tr>
<td></td>
<td>• <em>Disabled</em> - Windows 8.1</td>
</tr>
<tr>
<td><strong>Set Boot Priority</strong></td>
<td>Allows you to change the order in which the computer attempts to find an operating system:</td>
</tr>
<tr>
<td></td>
<td>• 1st Boot Priority [CD/DVD/CD-RW Drive]</td>
</tr>
<tr>
<td></td>
<td>• 2nd Boot Priority [Network]</td>
</tr>
<tr>
<td></td>
<td>• 3rd Boot Priority [mini SSD]</td>
</tr>
<tr>
<td></td>
<td>• 4th Boot Priority [USB Storage Device]</td>
</tr>
<tr>
<td></td>
<td>• 5th Boot Priority [Hard Drive]</td>
</tr>
<tr>
<td></td>
<td>• 6th Boot Priority [Diskette Drive]</td>
</tr>
</tbody>
</table>

### Table 6. Exit

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Save Changes and Reset</strong></td>
<td>Allows you to save the changes you made.</td>
</tr>
<tr>
<td><strong>Discard Changes and Reset</strong></td>
<td>Allows you to discard the changes you made.</td>
</tr>
<tr>
<td><strong>Restore Defaults</strong></td>
<td>Allows you to restore the default options.</td>
</tr>
<tr>
<td><strong>Discard Changes</strong></td>
<td>Allows you to discard the changes you made.</td>
</tr>
<tr>
<td><strong>Save Changes</strong></td>
<td>Allows you to save the changes you made.</td>
</tr>
</tbody>
</table>

### Updating the BIOS in Windows

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

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

1. Restart the computer.
2. Go to [Dell.com/support](http://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 the 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.

   **NOTE:** It is recommended not to update the BIOS version for more than 3 revisions. For example: If you want to update the BIOS from 1.0 to 7.0, then install version 4.0 first and then install version 7.0.

### System and setup password

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

<table>
<thead>
<tr>
<th>Password type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System password</td>
<td>Password that you must enter to log on to your system.</td>
</tr>
<tr>
<td>Setup password</td>
<td>Password that you must enter to access and make changes to the BIOS settings of your computer.</td>
</tr>
</tbody>
</table>

**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:** Your computer is shipped with the system and setup password feature is disabled.

### Assigning a system password and setup password

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

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

1. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter. The **Security** screen is displayed.

2. Select **System 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 and/or setup password

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

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

1. In the System BIOS or System Setup screen, select System Security and press Enter.
   The System Security screen is displayed.

2. In the System Security screen, verify that Password Status is Unlocked.

3. Select System Password, alter or delete the existing system password and press Enter or Tab.

4. Select Setup Password, alter or delete the existing setup password and press Enter or Tab.
   \[NOTE:] If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.

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 reboots.
If you experience a problem with your computer, run the ePSA diagnostics before contacting Dell for technical assistance. The purpose of running diagnostics is to test your computer’s hardware without requiring additional equipment or risking data loss. If you are unable to fix the problem yourself, service and support personnel can use the diagnostics results to help you solve the problem.

Topics:
- Enhanced Pre-Boot System Assessment (ePSA) diagnostics
- Device Status Light

**Enhanced Pre-Boot System Assessment (ePSA) diagnostics**

The ePSA diagnostics (also known as system diagnostics) performs a complete check of your hardware. The ePSA is embedded with the BIOS and is launched by the BIOS internally. The embedded system diagnostics provides a set of options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

⚠️ **CAUTION:** Use the system diagnostics to test only your computer. Using this program with other computers may cause invalid results or error messages.

⚠️ **NOTE:** Some tests for specific devices require user interaction. Always ensure that you are present at the computer terminal when the diagnostic tests are performed.

**Device Status Light**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🌇</td>
<td>Turns on when you turn on the computer.</td>
</tr>
</tbody>
</table>
NOTE: Offerings may vary by region. For more information regarding the configuration of your computer, click Start (Start icon) > Help and Support, and then select the option to view information about your computer.

### Table 8. System Information

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Chipset</td>
<td>Mobile Intel HM170 Express Chipset / Intel CM236</td>
</tr>
<tr>
<td>DMA Channels</td>
<td>two VT-d DMA remap engines</td>
</tr>
<tr>
<td>Interrupt Levels</td>
<td>Intel 64 and IA-32 Architecture</td>
</tr>
<tr>
<td>BIOS Chip (NVRAM)</td>
<td>8 MB</td>
</tr>
</tbody>
</table>

### Table 9. Processor

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor type</td>
<td>6th Generation Intel Core i3/ 6th Generation Intel Quad Core i5/ 6th Generation Intel Quad Core i7</td>
</tr>
<tr>
<td>L1 cache</td>
<td>up to 256 KB cache depending on processor type</td>
</tr>
<tr>
<td>L2 cache</td>
<td>up to 1024 KB cache depending on processor type</td>
</tr>
<tr>
<td>L3 cache</td>
<td>up to 6144 KB cache depending on processor type</td>
</tr>
</tbody>
</table>

### Table 10. Memory

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>DDR4</td>
</tr>
<tr>
<td>Speed</td>
<td>2133 MHz</td>
</tr>
<tr>
<td>Connectors</td>
<td>2 SoDIMM Sockets</td>
</tr>
<tr>
<td>Capacity</td>
<td>8 GB, 16 GB, and 32 GB</td>
</tr>
<tr>
<td>Minimum Memory</td>
<td>8 GB</td>
</tr>
<tr>
<td>Maximum memory</td>
<td>32 GB</td>
</tr>
</tbody>
</table>

### Table 11. Video

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Discrete: NVIDIA GeForce GTX 960M</td>
</tr>
<tr>
<td></td>
<td>Integrated: Intel HD Graphics 530</td>
</tr>
<tr>
<td>Data bus</td>
<td>PCIE x16, Gen3</td>
</tr>
<tr>
<td>Memory</td>
<td>Discrete: Up to 2 GB GDDR5</td>
</tr>
<tr>
<td></td>
<td>Integrated: Shared system memory</td>
</tr>
</tbody>
</table>
### Table 12. Audio

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated</td>
<td>dual-channel High-Definition audio</td>
</tr>
</tbody>
</table>

### Table 13. Communication

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network adapter</td>
<td>Ethernet via USB-to-Ethernet Dongle provided in box.</td>
</tr>
<tr>
<td>Wireless</td>
<td>- Wi-Fi 802.11ac</td>
</tr>
<tr>
<td></td>
<td>- Wi-Fi 802.11a/g/n</td>
</tr>
<tr>
<td></td>
<td>- Bluetooth 4.1</td>
</tr>
<tr>
<td></td>
<td>- Intel WiDi (optional)</td>
</tr>
<tr>
<td><strong>NOTE:</strong></td>
<td>No RJ45 (10/100/1000Base-T, IPv6) provided.</td>
</tr>
</tbody>
</table>

### Table 14. Ports and Connectors

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>- One headset port (headphone and microphone combo)</td>
</tr>
<tr>
<td>USB 3.0</td>
<td>- two USB 3.0 ports with PowerShare</td>
</tr>
<tr>
<td></td>
<td>- One Thunderbolt 3 port with PowerShare (USB-C)</td>
</tr>
<tr>
<td>Video</td>
<td>- one HDMI 1.4</td>
</tr>
<tr>
<td>Memory card reader</td>
<td>SD 4.0</td>
</tr>
</tbody>
</table>

### Table 15. Display

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>1920 x 1080 FHD</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160 UltraHD</td>
</tr>
<tr>
<td>Size</td>
<td>15.6 inches FHD</td>
</tr>
<tr>
<td></td>
<td>15.6 inches UltraHD</td>
</tr>
<tr>
<td>Dimensions:</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>194.50 mm (7.66 in)</td>
</tr>
<tr>
<td>Width</td>
<td>345.60 mm (13.61 in)</td>
</tr>
<tr>
<td>Diagonal</td>
<td>396.52 mm (15.61 in)</td>
</tr>
<tr>
<td>Active area (X/Y)</td>
<td>194.50 mm (7.66 in) x 345.60 mm (13.61 in) x 396.52 mm (15.61 in)</td>
</tr>
<tr>
<td>Maximum resolution</td>
<td>1920 X 1080 pixels / 3840 X 2160 pixels</td>
</tr>
<tr>
<td>Maximum Brightness</td>
<td>400 nits</td>
</tr>
<tr>
<td>Operating angle</td>
<td>0° (closed) to 135°</td>
</tr>
<tr>
<td>Refresh rate</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Minimum viewing angles:</td>
<td></td>
</tr>
<tr>
<td>Horizontal</td>
<td>80/80</td>
</tr>
<tr>
<td>Vertical</td>
<td>80/80</td>
</tr>
</tbody>
</table>
### Table 16. Keyboard

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of keys</td>
<td>• United States: 80 keys</td>
</tr>
<tr>
<td></td>
<td>• United Kingdom: 81 keys</td>
</tr>
<tr>
<td></td>
<td>• Brazil: 81 keys</td>
</tr>
<tr>
<td></td>
<td>• Japan: 84 keys</td>
</tr>
<tr>
<td>Layout</td>
<td>QWERTY/AZERTY/Kanji</td>
</tr>
</tbody>
</table>

### Table 17. Touchpad

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Area:</td>
<td></td>
</tr>
<tr>
<td>X-axis</td>
<td>105 mm</td>
</tr>
<tr>
<td>Y-axis</td>
<td>80 mm</td>
</tr>
</tbody>
</table>

### Table 18. Camera

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>HD Camera / Digital Array Microphone</td>
</tr>
<tr>
<td>Still Resolution</td>
<td>0.92 megapixels (Maximum)</td>
</tr>
<tr>
<td>Video Resolution</td>
<td>1280 x 720 pixels (HD) at 30 frames per second (Maximum)</td>
</tr>
<tr>
<td>Diagonal</td>
<td>74 degrees</td>
</tr>
</tbody>
</table>

### Table 19. Storage

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage:</td>
<td></td>
</tr>
<tr>
<td>Storage Interface</td>
<td>SATA 3 Gbps</td>
</tr>
<tr>
<td></td>
<td>SATA 6 Gbps</td>
</tr>
<tr>
<td>Drives configurations:</td>
<td></td>
</tr>
<tr>
<td>Hard Drives (optional)</td>
<td>one internal 2.5 inch SATA HDD (supports Intel Smart Response Technology)</td>
</tr>
<tr>
<td>Solid State Drives (optional)</td>
<td>one Solid State Drive (SSD), with Intel Cache support</td>
</tr>
<tr>
<td>Size:</td>
<td>512 GB and 1 TB</td>
</tr>
</tbody>
</table>

### Table 20. Battery

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Li-polymer 3-cell (56 Whr) / 6-cell (84 Whr)</td>
</tr>
</tbody>
</table>

#### 56 Whr:
- **Depth**: 223.20 mm (8.79 in)
- **Height**: 7.20 mm (0.28 in)
- **Width**: 71.80 mm (2.83 in)
- **Weight**: 0.54 lb (0.24 kg)

#### 84 Whr:
- **Depth**: 330.50 mm (13.01 in)
- **Height**: 7.20 mm (0.28 in)
- **Width**: 71.80 mm (2.83 in)
## Table 21. AC Adapter

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>100 VAC to 240 VAC</td>
</tr>
<tr>
<td>Input current (maximum)</td>
<td>1.80 A</td>
</tr>
<tr>
<td>Input frequency</td>
<td>50 Hz to 60 Hz</td>
</tr>
<tr>
<td>Output power</td>
<td>130 W</td>
</tr>
<tr>
<td>Output current</td>
<td>6.67 A</td>
</tr>
<tr>
<td>Rated output voltage</td>
<td>19.50 VDC</td>
</tr>
<tr>
<td>Dimensions:</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>22 mm (0.86 inches)</td>
</tr>
<tr>
<td>Width</td>
<td>66 mm (2.59 inches)</td>
</tr>
<tr>
<td>Depth</td>
<td>143 mm (5.62 inches)</td>
</tr>
<tr>
<td>Temperature range:</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>0 °C to 40 °C (32 °F to 104 °F)</td>
</tr>
<tr>
<td>Non-Operating</td>
<td>−40 °C to 70 °C (−40 °F to 158 °F)</td>
</tr>
</tbody>
</table>

## Table 22. Physical Dimensions

<table>
<thead>
<tr>
<th>Physical</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>17 mm (0.66 in)</td>
</tr>
<tr>
<td>Width</td>
<td>357 mm (14.06 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>235 mm (9.27 in)</td>
</tr>
<tr>
<td>Weight (Minimum)</td>
<td>2 kg (4.41 lb)</td>
</tr>
</tbody>
</table>

## Table 23. Environmental

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range:</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>0 °C to 40 °C (32 °F to 104 °F)</td>
</tr>
<tr>
<td>Storage</td>
<td>−40 °C to 70 °C (−40 °F to 158 °F)</td>
</tr>
<tr>
<td>Relative humidity (maximum):</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>10 % to 90 % (non-condensing)</td>
</tr>
<tr>
<td>Storage</td>
<td>10 % to 95 % (non-condensing)</td>
</tr>
<tr>
<td>Maximum vibration:</td>
<td></td>
</tr>
<tr>
<td>Feature</td>
<td>Specification</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Operating</td>
<td>0.66 GRMS, 2 Hz - 600 Hz</td>
</tr>
<tr>
<td>Storage</td>
<td>1.3 GRMS, 2 Hz - 600 Hz</td>
</tr>
<tr>
<td>Maximum shock:</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>110 G, 2 ms</td>
</tr>
<tr>
<td>Non-operating</td>
<td>160 G, 2 ms</td>
</tr>
<tr>
<td>Altitude:</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>–15.2 m to 30482000 m (–50 to 10,000 ft)</td>
</tr>
<tr>
<td>Storage</td>
<td>15.2 m to 10,668 m (–50 ft to 35,000 ft)</td>
</tr>
<tr>
<td>Airborne contaminant level</td>
<td>G1 as defined by ISA-S71.04-1985</td>
</tr>
</tbody>
</table>
NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

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

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