OptiPlex 3080 Micro

Setup and Specifications

Regulatory Model: D14U
Regulatory Type: D14U002
August 2021
Rev. A04

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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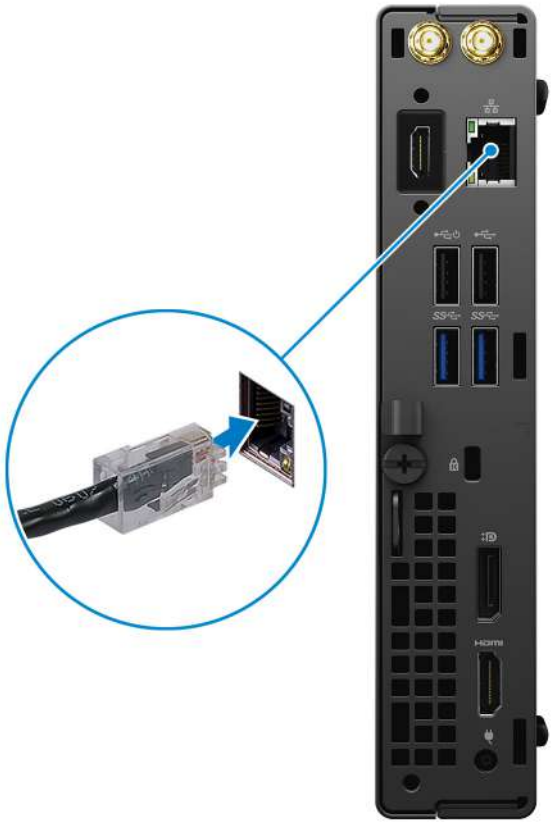
Set up your computer

Steps

1. Connect the keyboard and mouse.



2. Connect to your network using a cable, or connect to a wireless network.



3. Connect the display.



4. Connect the power cable.



5. Press the power button.



6. Finish Windows system setup.

   Follow the on-screen instructions to complete the setup. When setting up, Dell recommends that you:

   - Connect to a network for Windows updates.

     NOTE: If connecting to a secured wireless network, enter the password for the wireless network access when prompted.
   - If connected to the internet, sign-in with or create a Microsoft account. If not connected to the internet, create an offline account.
   - On the **Support and Protection** screen, enter your contact details.

7. Locate and use Dell apps from the Windows Start menu—Recommended.

Table 1. Locate Dell apps

Dell apps	Details
	Dell Product Registration Register your computer with Dell.
	Dell Help & Support Access help and support for your computer.

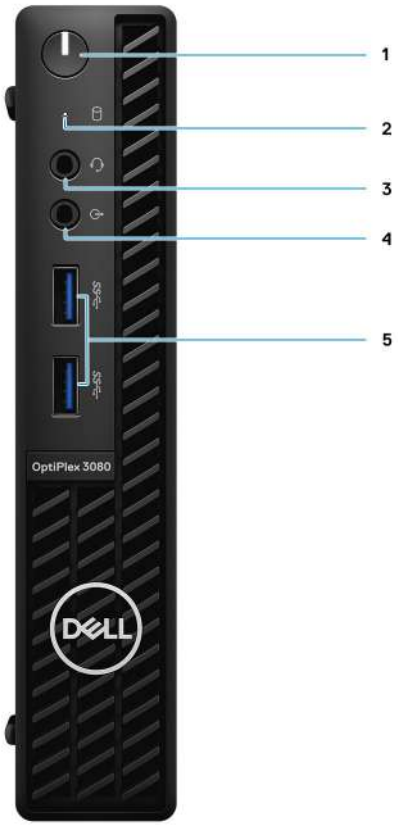
Table 1. Locate Dell apps (continued)

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

2

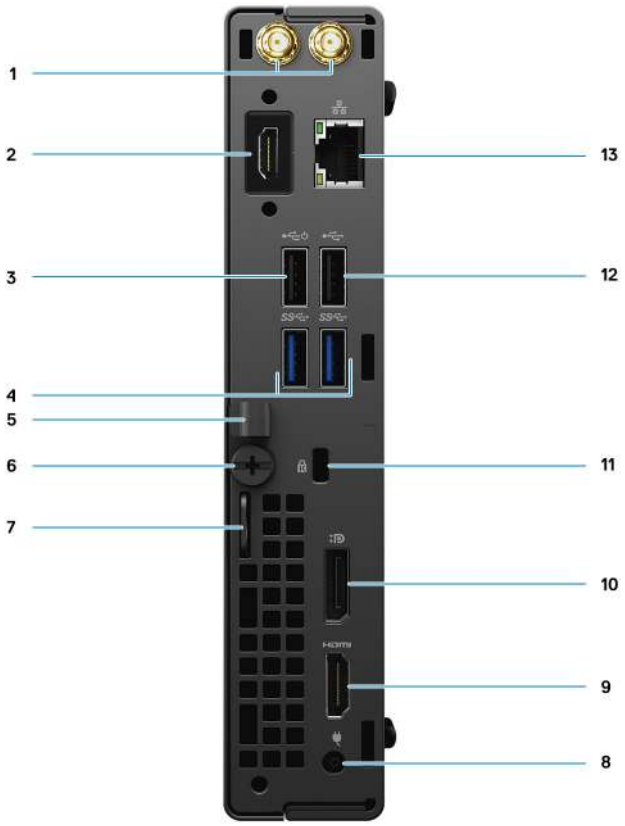
Chassis overview

Front view



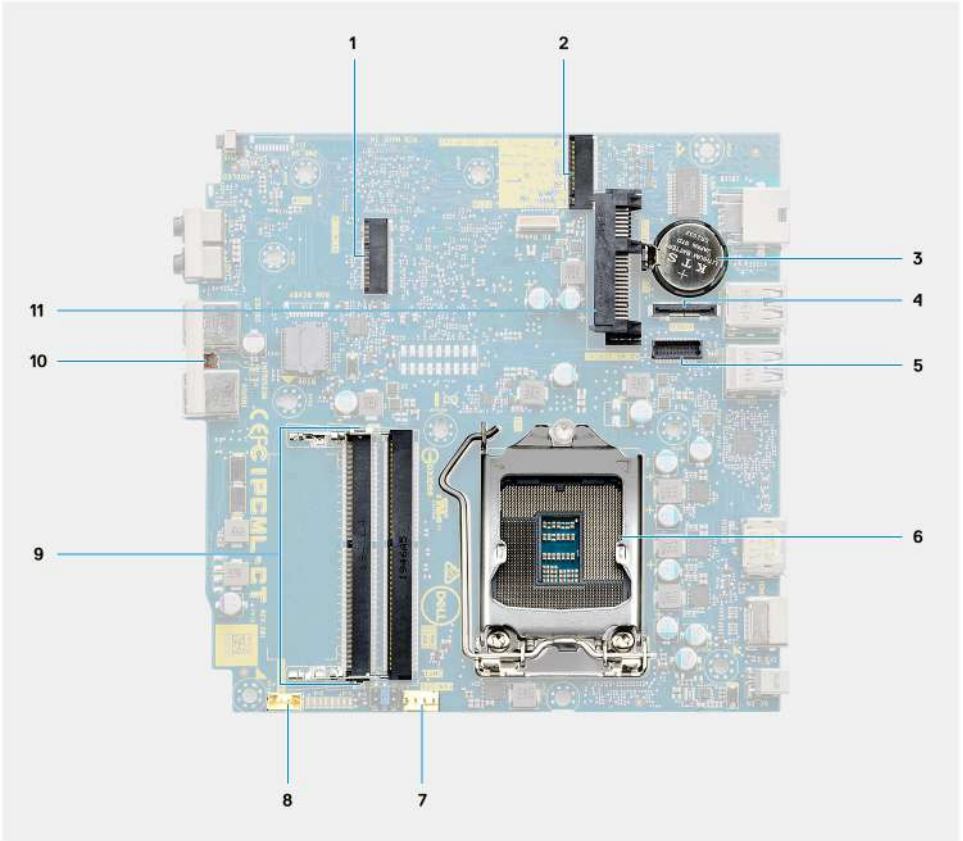
1. Power button with diagnostic LED
2. Hard-disk drive activity light
3. Universal audio jack port
4. Line-out port (retaskable Line-in)
5. USB 3.2 Gen 1 Type-A ports (2)

Back view



1. External antenna connectors
2. Serial/Video Port (Serial/PS2/DP 1.4/HDMI 2.0b/VGA) (optional)
3. USB 2.0 port with Smart Power on
4. USB 3.2 Gen 1 Type-A ports (2)
5. Cable holder
6. Thumbscrew
7. Padlock loop
8. Power connector port
9. HDMI 1.4 port
10. DisplayPort 1.4
11. Kensington security-cable slot
12. USB 2.0 port
13. RJ-45 port 10/100/1000 Mbps

System board Layout



1. M.2 WLAN connector
2. M.2 SSD PCIe connector
3. Coin-cell battery
4. Optional video connector (VGA Port/DisplayPort 1.4 Port/HDMI 2.0b Port)
5. Optional Keyboard and mouse serial port connector
6. Processor socket
7. CPU Fan connector
8. Internal speaker connector
9. Memory slots
10. Intrusion switch
11. HDD connector

3

Technical specifications

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

Dimensions and weight

Table 2. Dimensions and weight

Description	Values
Height:	
Front	182.00 mm (7.16 in.)
Rear	182.00 mm (7.16 in.)
Width	36.00 mm (1.42 in.)
Depth	178.56 mm (7.03 in.)
Weight (minimum)	1.16 kg (2.55 lb)
Weight (maximum)	1.28 kg (2.82 lb) **NOTE:** The weight of your computer depends on the configuration ordered and the manufacturing variability.

Chipset

Table 3. Chipset

Description	Values
Chipset	Intel B460
Processor	10th Generation Intel Core i3/i5/Pentium/Celeron
DRAM bus width	64-bit (for single channel)
Flash EPROM	32 MB
PCIe bus	Up to Gen 3.0
Non-volatile memory	Yes
BIOS Configuration Serial Peripheral Interface (SPI)	256 Mbit (32 MB) located at SPI_FLASH on chipset
Trusted Platform Module (Discrete TPM Enabled)	24 KB located at TPM 2.0 on chipset
Firmware TPM (Discrete TPM Disabled)	By default the Platform Trust Technology feature is visible to the OS
NIC EEPROM	LOM configuration contained within LOM e-fuse

Processors

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

Device Guard (DG) and Credential Guard (CG) are the new security features that are only available on Windows Enterprise today.

Device Guard is a combination of enterprise-related hardware and software security features that, when configured together, will lock a device down so that it can only run trusted applications. If it is not a trusted application, it cannot run.

Credential Guard uses virtualization-based security to isolate secrets (credentials) so that only privileged system software can access them. Unauthorized access to these secrets can lead to credential theft attacks. Credential Guard prevents these attacks by protecting NTLM password hashes and Kerberos Ticket Granting Tickets.

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

Table 4. Processors

Processors	Wattage	Core count	Thread count	Speed	Cache	Integrated graphics	GSP	DG/CG Ready
Intel Celeron G5900T	35 W	2	2	3.2 GHz	2 MB	Intel UHD Graphics 610	No	Yes
Intel Celeron G5905T	35 W	2	2	3.3 GHz	4 MB	Intel UHD Graphics 610	No	Yes
Intel Pentium Gold G6400T	35 W	2	4	3.4 GHz	4 MB	Intel UHD Graphics 610	No	Yes
Intel Pentium Gold G6405T	35 W	2	4	3.5 GHz	4 MB	Intel UHD Graphics 610	No	Yes
Intel Pentium Gold G6500T	35 W	2	4	3.5 GHz	4 MB	Intel UHD Graphics 630	No	Yes
Intel Pentium Gold G6505T	35 W	2	4	3.6 GHz	4 MB	Intel UHD Graphics 630	No	Yes
10th Generation Intel Core i3-10100T	35 W	4	8	3.0 GHz to 3.8 GHz	6 MB	Intel UHD Graphics 630	No	Yes
10th Generation Intel Core i3-10105T	35 W	4	8	3.0 GHz to 3.9 GHz	6 MB	Intel UHD Graphics 630	No	Yes
10th Generation Intel Core i3-10300T	35 W	4	8	3.0 GHz to 3.9 GHz	8 MB	Intel UHD Graphics 630	No	Yes
10th Generation Intel Core i3-10305T	35 W	4	8	3.0 GHz to 4.0 GHz	8 MB	Intel UHD Graphics 630	No	Yes

Table 4. Processors (continued)

Processors	Wattage	Core count	Thread count	Speed	Cache	Integrated graphics	GSP	DG/CG Ready
10th Generation Intel Core i5-10400T	35 W	6	12	2.0 GHz to 3.6 GHz	12 MB	Intel UHD Graphics 630	No	Yes
10th Generation Intel Core i5-10500T	35 W	6	12	2.3 GHz to 3.8 GHz	12 MB	Intel UHD Graphics 630	Yes	Yes
10th Generation Intel Core i5-10600T	35 W	6	12	2.4 GHz to 4.0 GHz	12 MB	Intel UHD Graphics 630	Yes	Yes
10th Generation Intel Core i7-10700T	35 W	8	16	2.0 GHz to 4.5 GHz	16 MB	Intel UHD Graphics 630	Yes	Yes

NOTE: 10th Generation Intel Core i7-10700T does not perform at maximum capacity on OptiPlex 3080 Micro

Operating system

Your OptiPlex 3080 Micro supports the following operating systems:

- Windows 10 Home, 64-bit
- Windows 10 Pro, 64-bit
- Windows 10 Pro Education, 64-bit
- Windows 10 IoT Enterprise 2019 LTSC (OEM only)
- Ubuntu 20.04 LTS, 64-bit
- Neokylin 7.0

NOTE: Commercial Platform offers Windows 10 N-2 and 5 year OS support, refer to the Dell Windows as a Service (WaaS) website for additional information on N-2 and 5 year Windows OS support on knowledge base article https://www.dell.com/support/kbdoc/000054430/.

Memory

NOTE: A multiple-DIMM memory option is recommended to prevent any performance reduction. If the system configuration includes integrated graphics, consider selecting 2 or more DIMMs.

NOTE: Memory modules should be installed in pairs of matched memory size, speed, and technology. If the memory modules are not installed in matched pairs, the computer continues to operate, but with a slight reduction in performance. The entire memory range is available to 64-bit operating systems.

Table 5. Memory specifications

Description	Values
Slots	Two SODIMM
Type	DDR4

Table 5. Memory specifications (continued)

Description	Values
Speed	• 2666 MHz for Celeron/Pentium/i3/i5 **NOTE:** Intel Celeron/Pentium/i3/i5 processor supports 3200 MHz speed but due to limitations the speed is 2666 MHz • 2933 MHz for i7 **NOTE:** 10th Generation Intel Core i7 processor supports 3200 MHz speed but due to limitations the speed is 2933 MHz
Maximum memory	64 GB
Minimum memory	4 GB
Memory size per slot	4 GB, 8 GB, 16 GB, 32 GB
Configurations supported	• 4 GB, 1 x 4 GB • 8 GB, 2 x 4 GB • 8 GB, 1 x 8 GB • 16 GB, 2 x 8 GB • 16 GB, 1 x 16 GB • 32 GB, 2 x 16 GB • 32 GB, 1 x 32 GB • 64 GB, 2 x 32 GB

Ports and connectors

Table 6. Ports and connectors

Description	Values
External:	
Network	One RJ-45 port 10/100/1000 Mbps (rear)
USB	• Two USB 3.2 Gen 1 Type-A ports (front) • One USB 2.0 port (rear) • One USB 2.0 with Smart Power on (rear) • Two USB 3.2 Gen 1 Type-A ports (rear)
Audio	• One Universal Audio Jack (front) • One Line-out port (retaskable Line-in) (front)
Video	• One HDMI 1.4 port (rear) • One DisplayPort 1.4 port (rear) • One Serial/Video (Serial/PS2/VGA Port/DisplayPort 1.4 Port/HDMI 2.0 Port (optional))
Memory card reader	Not supported
Power port	4.5 mm barrel type
Security	One kensington security-cable slot
Antenna	Two SMA connectors (optional)
Internal:	

Table 6. Ports and connectors (continued)

Description	Values
SATA	One SATA slots for 2.5-inch Hard-disk drive
M.2	• One M.2 2230 slot for WiFi and Bluetooth card • One M.2 slot for 2280 PCIe solid-state drive/Optane or 2230 PCIe solid-state drive **NOTE:** To learn more about the features of different types of M.2 cards, see the knowledge base article SLN301626.

Communications

Ethernet

Table 7. Ethernet specifications

Description	Values
Model number	REALTEK RTL8111HSD-CG
Transfer rate	10/100/1000 Mbps

Wireless module

Table 8. Wireless module specifications

Description	Values		
Model number	Qualcomm QCA61x4A	Intel Wi-Fi 6 AX200	Intel 3165
Transfer rate	Up to 867 Mbps	Up to 2.4 Gbps	Up to 867 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz	2.4 GHz/5 GHz
Wireless standards	802.11ac	• 802.11ax (Wi-Fi 6)	802.11ac
Encryption	• 64-bit and 128-bit WEP • 128-bit AES-CCMP • TKIP	• 64-bit and 128-bit WEP • 128-bit AES-CCMP • TKIP	• 64-bit and 128-bit WEP • 128-bit AES-CCMP • TKIP
Bluetooth	5.0	5.1	4.2

Graphics and Video controller

Table 9. Integrated graphics specifications

Integrated graphics			
Controller	**External display support**	**Memory size**	**Processor**
Intel UHD Graphics 610	• One HDMI 1.4 port (rear) • One DisplayPort 1.4 port (rear)	Shared system memory	Intel Celeron/ Pentium Gold

Table 9. Integrated graphics specifications (continued)

Integrated graphics			
Controller	**External display support**	**Memory size**	**Processor**
Intel UHD Graphics 630	• One HDMI 1.4 port (rear) • One DisplayPort 1.4 port (rear)	Shared system memory	10th Generation Intel Core i3/i5

Audio and Speaker

The following table lists the audio specifications of your OptiPlex 3080 Micro.

Table 10. Audio specifications

Description	Values
Type	4 Channel High Definition Audio
Controller	Realtek ALC3246
Stereo conversion	24-bit DAC (Digital-to-Analog) and ADC (Analog-to-Digital)
Internal interface	Intel HDA (high-definition audio)
External interface	• One Universal Audio Jack • One Line-out audio port
Speakers	One (optional)
Internal speaker amplifier	Integrated in ALC3246 (Class-D 2 W)
External volume controls	Keyboard shortcut controls.
Speaker output average	2 W
Speaker output peak	2.5 W
Subwoofer output	Not supported
Microphone	Not supported

Storage

Your computer supports one of the following configurations:

- One 2.5-inch hard-disk drive
- One M.2 2230 or 2280 solid-state drive (class 35 or class 40)
- One 2.5-inch hard-disk drive and Intel Optane memory
- One M.2 2230 or 2280 solid-state drive (non-optane) and One 2.5-inch hard-disk drive

The primary drive of your computer varies with the storage configuration. For computers:

- with a M.2 solid-state drive, the M.2 solid-state drive is the primary drive
- without a M.2 drive, the 2.5-inch hard-disk drive is the primary drive

Table 11. Storage specifications

Storage type	Interface type	Capacity
2.5-inch, 5400 RPM, hard-disk drive	SATA 3.0	Up to 2 TB

Table 11. Storage specifications (continued)

Storage type	Interface type	Capacity
2.5-inch, 7200 RPM, hard-disk drive	SATA 3.0	Up to 1 TB
2.5-inch, 7200 RPM, FIPS Self Encrypting Opal 2.0, hard-disk drive	SATA 3.0	500 GB
M.2 2230 solid-state drive	Gen 3 PCIe x4 NVMe, Class 35	Up to 512 GB
M.2 2280 solid-state drive	Gen 3 PCIe x4 NVMe, Class 40	Up to 2 TB
M.2 2280 Opal Self-Encrypting solid-state drive	Gen 3 PCIe x4 NVMe, Class 40	Up to 1 TB
32 GB with 512 GB solid-state drive	Gen 3 PCIe x4, Optane memory	32 GB + 512 GB

Power adapter

Table 12. Power adapter specifications

Description		Values
Type		65 W (4.5 mm barrel type)
Diameter (connector)		4.5 mm
Input voltage		100 VAC to 240 VAC
Input frequency		50 Hz to 60 Hz
Input current (maximum)		1.50 A
Output current (continuous)		3.34 A
Rated output voltage		19.50 VDC
Temperature range:		
	Operating	0°C–40°C (32°F–104°F)
	Storage	-40°C-70°C (-40°F-158°F)

Data security

Table 13. Data security

Data security options	Values
McAfee Small Business Security 30 Day Free Trial	Supported
McAfee Small Business Security 12-month subscription	Supported
McAfee Small Business Security 36-month subscription	Supported
SafeGuard and Response, powered by VMware Carbon Black and Secureworks	Supported
Next Generation anti-virus (NGAV)	Supported
Endpoint Detection and Response (EDR)	Supported

Table 13. Data security (continued)

Data security options	Values
Threat Detection and Response (TDR)	Supported
Managed Endpoint Detection and Response	Supported
Incident Management Retainer	Supported
Emergency Incident Response	Supported
SafeData	Supported

Environmental

Table 14. Environmental specifications

Feature	OptiPlex 3080 Micro
Recyclable packaging	Yes
BFR/PVC—free chassis	No
MultiPack packaging	Yes (US only) (optional)
Energy-Efficient Power Supply	88%
ENV0424 compliant	Yes

NOTE: Wood-based fiber packaging contains a minimum of 35% recycled content by total weight of wood-based fiber. Packaging that contains without wood-based fiber can be claimed as Not Applicable.

Energy Star, EPEAT and Trusted Platform Module (TPM)

Table 15. Energy Star, EPEAT and TPM

Features	Specifications
Energy Star 8.0	Compliant configurations available
EPEAT	Gold and Silver compliant configurations available
Trusted Platform Module (TPM) 2.0[1,2]	Integrated on system board
Firmware-TPM (Discrete TPM disabled)	Optional

NOTE:

[1]TPM 2.0 is FIPS 140-2 certified.

[2]TPM is not available in all countries.

Computer environment

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

Table 16. Computer environment

Description	Operating	Storage
Temperature range	10°C–35°C (50°F–95°F)	-40°C-65°C (-40°F-149°F)
Relative humidity (maximum)	20% to 80% (non-condensing)	5% to 95% (non-condensing)
Vibration (maximum)*	0.26 GRMS random at 5 Hz to 350 Hz	1.37 GRMS random at 5 Hz to 350 Hz
Shock (maximum)	Bottom half-sine pulse with a change in velocity of 50.8 cm/sec (20 in./sec)	105G half-sine pulse with a change in velocity of 133 cm/sec (52.5 in./sec)
Altitude (maximum)	3048 m (10,000 ft)	10,668 m (35,000 ft)

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

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

Service and support

NOTE: For more details on Dell Service Plans, see https://www.dell.com/learn/us/en/19/services/warranty-support-services.

Table 17. Warranty

Warranty
1 Year Basic Warranty with Hardware Service on site service after remote diagnosis
2 Years Basic Warranty Extension
3 Years Basic Warranty Extension
4 Years Basic Warranty Extension
5 Years Basic Warranty Extension
1 Year ProSupport and Next Business Day on-site service
2 Years ProSupport and Next Business Day on-site service
3 Years ProSupport and Next Business Day on-site service
4 Years ProSupport and Next Business Day on-site service
5 Years ProSupport and Next Business Day on-site service
1 Year ProSupport Plus for Client with Next Business Day on-site service
2 Years ProSupport Plus for Client with Next Business Day on-site service
3 Years ProSupport Plus for Client with Next Business Day on-site service
4 Years ProSupport Plus for Client with Next Business Day on-site service
5 Years ProSupport Plus for Client with Next Business Day on-site service

Table 18. Accidental damage services

Accidental Damage Services
1 Year Accidental Damage Service
2 Years Accidental Damage Service
3 Years Accidental Damage Service
4 Years Accidental Damage Service

Table 18. Accidental damage services (continued)

Accidental Damage Services
5 Years Accidental Damage Service

4

Software

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

Downloading Windows drivers

Steps

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

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

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

5

BIOS 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: Depending on the computer and its installed devices, the items listed in this section may or may not be displayed.

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.

BIOS overview

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

Entering BIOS setup program

Steps

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

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

Navigation keys

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

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

One time boot menu

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

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

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

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

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

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

System setup options

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

General options

Table 19. General

Option	Description
System Information	Displays the following information: • System Information: Displays **BIOS Version, Service Tag, Asset Tag, Ownership Tag, Manufacture Date, Ownership Date,** and the **Express Service Code**. • Memory Information: Displays **Memory Installed, Memory Available, Memory Speed, Memory Channel Mode, Memory Technology, DIMM 1 Size**, and **DIMM 2 Size**. • PCI Information: Displays Slot1_M.2, Slot2_M.2 • Processor Information: Displays **Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable,** and **64-Bit Technology.** • Device Information: Displays **SATA-0, M.2 PCIe SSD-2, LOM MAC Address, Video Controller, Audio Controller, Wi-Fi Device, and Bluetooth Device.**
Boot Sequence	Allows you to specify the order in which the computer attempts to find an operating system from the devices specified in this list.
UEFI Boot Path Security	This option controls whether or not the system prompts the user to enter the Admin password when booting a UEFI boot path from the F12 Boot Menu.
Date/Time	Allows you to set the date and time settings. Changes to the system date and time take effect immediately.

.

System information

Table 20. System Configuration

Option	Description
Integrated NIC	Allows you to control the onboard LAN controller. The option 'Enable UEFI Network Stack' is not selected by default. The options are:

Table 20. System Configuration (continued)

Option	Description
	• Disabled • Enabled • Enabled w/PXE (default) **NOTE:** Depending on the computer and its installed devices, the items that are listed in this section may or may not appear.
SATA Operation	Allows you to configure the operating mode of the integrated hard drive controller. • Disabled = The SATA controllers are hidden • AHCI = SATA is configured for AHCI mode • RAID ON = SATA is configured to support RAID mode (selected by default)
Drives	Allows you to enable or disable the various drives onboard: • SATA-0 (enabled by default) • M.2 PCIe SSD-0 (enabled by default)
Smart Reporting	This field controls whether hard-drive errors for integrated drives are reported during system startup. The **Enable Smart Reporting option** is disabled by default.
USB Configuration	Allows you to enable or disable the integrated USB controller for: • Enable USB Boot Support • Enable Front USB Ports • Enable Rear USB Ports All the options are enabled by default.
Front USB Configuration	Allows you to enable or disable the front USB ports. All the ports are enabled by default.
Rear USB Configuration	Allows you to enable or disable the back USB ports. All the ports are enabled by default.
Audio	Allows you to enable or disable the integrated audio controller. The option **Enable Audio** is selected by default. • Enable Microphone • Enable Internal Speaker Both the options are selected by default.
Dust Filter Maintenance	Allows you to enable or disable BIOS messages for maintaining the optional dust filter that is installed in your computer. BIOS will generate a pre-boot reminder to clean or replace the dust filter based on the interval set. The option **Disabled** is selected by default. • Disabled • 15 days • 30 days • 60 days • 90 days • 120 days • 150 days • 180 days

Video screen options

Table 21. Video

Option	Description
Primary Display	Allows you to select the primary display when multiple controllers are available in the system. • Auto (default) • Intel HD Graphics **NOTE:** If you do not select Auto, the on-board graphics device will be present and enabled.

Security

Table 22. Security

Option	Description
Admin Password	Allows you to set, change, and delete the admin password.
System Password	Allows you to set, change, and delete the system password.
Internal HDD-0 Password	Allows you to set, change, and delete the computer's internal hard drive password.
Password Configuration	Allows you to control the minimum and maximum number of characters that are allowed for an administrative password and the system password. The range of characters is between 4 and 32.
Password Bypass	This option lets you bypass the System (Boot) Password and the internal hard drive password prompts during a system restart. ● Disabled — Always prompt for the system and internal HDD password when they are set. This option is disabled by default. ● Reboot Bypass — Bypass the password prompts on Restarts (warm boots). **NOTE:** The system will always prompt for the system and internal HDD passwords when powered on from the off state (a cold boot). Also, the system will always prompt for passwords on any module bay HDDs that may be present.
Password Change	This option lets you determine whether changes to the System and Hard Disk passwords are permitted when an administrator password is set. **Allow Non-Admin Password Changes** - This option is enabled by default.
UEFI Capsule Firmware Updates	This option controls whether this system allows BIOS updates via UEFI capsule update packages. This option is selected by default. Disabling this option will block BIOS updates from services such as Microsoft Windows Update and Linux Vendor Firmware Service (LVFS).
TPM 2.0 Security	Allows you to control whether the Trusted Platform Module (TPM) is visible to the operating system. ● TPM On (default) ● Clear ● PPI Bypass for Enable Commands ● PPI Bypass for Disable Commands ● PPI Bypass for Clear Commands ● Attestation Enable (default) ● Key Storage Enable (default) ● SHA-256 (default) Choose any one option: ● Disabled ● Enabled (default)
Absolute	This field lets you Enable, Disable or permanently Disable the BIOS module interface of the optional Absolute Persistence Module service from Absolute Software. ● Enabled - This option is selected by default. ● Disable ● Permanently Disabled
Chassis Intrusion	This field controls the chassis intrusion feature. Choose any one of the options: ● Disabled (default) ● Enabled ● On-Silent
Admin Setup Lockout	Allows you to prevent users from entering Setup when Admin password is set. This option is not set by default.

Table 22. Security (continued)

Option	Description
Master Password Lockout	Allows you to disable master password support. Hard Disk passwords need to be cleared before the settings can be changed. This option is not set by default.
SMM Security Mitigation	Allows you to enable or disable additional UEFI SMM Security Mitigation protections. This option is not set by default.

Secure boot options

Table 23. Secure Boot

Option	Description
Secure Boot Enable	Allows you to enable or disable Secure Boot feature • Secure Boot Enable This option is not selected by default.
Secure Boot Mode	Allows you to modify the behavior of Secure Boot to allow evaluation or enforcement of UEFI driver signatures. • Deployed Mode (default) • Audit Mode
Expert key Management	Allows you to manipulate the security key databases only if the system is in Custom Mode. The **Enable Custom Mode** option is disabled by default. The options are: • PK (default) • KEK • db • dbx If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are: • **Save to File**- Saves the key to a user-selected file • **Replace from File**- Replaces the current key with a key from a user-selected file • **Append from File**- Adds a key to the current database from a user-selected file • **Delete**- Deletes the selected key • **Reset All Keys**- Resets to default setting • **Delete All Key**s- Deletes all the keys **NOTE:** If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.

Intel Software Guard Extensions options

Table 24. Intel Software Guard Extensions

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

Table 24. Intel Software Guard Extensions (continued)

Option	Description
	• **32 MB** • **64 MB** • **128 MB**—Default

Performance

Table 25. Performance

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

Power management

Table 26. Power Management

Option	Description
AC Recovery	Determines how the system responds when AC power is re-applied after a power loss. You can set the AC Recovery to: • Power Off • Power On • Last Power State This option is Power Off by default.
Enable Intel Speed Shift Technology	Allows you to enable or disable Intel Speed Shift Technology support. The option **Enable Intel Speed Shift Technology** is set by default.

Table 26. Power Management (continued)

Option	Description
Auto On Time	Sets time to automatically turn on the computer. Time is kept in standard 12-hour format (hour:minutes:seconds). Change the startup time by typing the values in the time and AM/PM fields. **NOTE:** This feature does not work if you turn off your computer using the switch on a power strip or surge protector or if **Auto Power is set to disabled**.
Deep Sleep Control	Allows you to define the controls when Deep Sleep is enabled. ● Disabled ● Enabled in S5 only ● Enabled in S4 and S5 .
USB Wake Support	Allows you to enable the USB devices to wake the computer from standby mode. The option "Enable USB Wake Support" is selected by default
Wake on LAN/WWAN	This option allows the computer to power up from the off state when triggered by a special LAN signal. This feature only works when the computer is connected to AC power supply. ● **Disabled** - Does not allows the system to power on by special LAN signals when it receives a wake-up signal from the LAN or wireless LAN. ● **LAN** or **WLAN** - Allows the system to be powered on by special LAN or wireless LAN signals. ● **LAN Only** - Allows the system to be powered on by special LAN signals. ● **LAN with PXE Boot** - A wakeup packet sent to the system in either the S4 or S5 state, that will cause the system to wake-up and immediately boot to PXE. ● **WLAN Only** - Allows the system to be powered on by special WLAN signals. This option is Disabled by default.
Block Sleep	Allows you to block entering to sleep (S3 state) in OS environment. This option is disabled by default.

Post behavior

Table 27. POST Behavior

Option	Description
Adapter Warnings	This option lets you choose whether the system displays warning messages when you use certain power adapters. This option is enabled by default.
Numlock LED	Allows you to enable or disable the Numlock feature when your computer starts. This option is enabled by default.
Keyboard Errors	Allows you to enable or disable the keyboard error reporting when the computer starts. The option **Enable Keyboard Error Detection** is enabled by default.
Fast Boot	This option can speed up the boot process by bypassing some compatibility steps: ● Minimal — The system boots quickly, unless the BIOS has been updated, memory changed, or the previous POST did not complete. ● Thorough — The system does not skip any steps in the boot process. ● Auto — This allows the operating system to control this setting (this works only when the operating system supports Simple Boot Flag). This option is set to **Thorough** by default.
Extend BIOS POST Time	This option creates an additional pre-boot delay. ● 0 seconds (default) ● 5 seconds ● 10 seconds
Full Screen Logo	This option will display full screen logo if your image match screen resolution. The option **Enable Full Screen Logo** is not set by default.

Table 27. POST Behavior (continued)

Option	Description
Warnings and Errors	This option causes the boot process to only pause when warning or errors are detected. Choose any one of the option: • Prompt on Warnings and Errors - default • Continue on Warnings • Continue on Warnings and Errors

Virtualization support

Table 28. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by the Intel Virtualization technology. • **Enable Intel Virtualization Technology** This option is set by default.
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by the Intel Virtualization technology for direct I/O. • **Enable VT for Direct I/O** This option is set by default.

Wireless options

Table 29. Wireless

Option	Description
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. The options are: • **WLAN/WiGig** • **Bluetooth** All the options are enabled by default.

Maintenance

Table 30. Maintenance

Option	Description
Service Tag	Displays the service tag of your computer.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.
SERR Messages	Controls the SERR message mechanism. This option is set by default. Some graphics cards require that the SERR message mechanism be disabled.
BIOS Downgrade	Allows you to flash previous revisions of the system firmware. • **Allow BIOS Downgrade** This option is set by default.

Table 30. Maintenance (continued)

Option	Description
Data Wipe	Allows you to securely erase data from all internal storage devices. • **Wipe on Next Boot** This option is not set by default.
BIOS Recovery	**BIOS Recovery from Hard Drive**—This option is set by default. Allows you to recover the corrupted BIOS from a recovery file on the HDD or an external USB key. **NOTE: BIOS Recovery from Hard Drive** field must be enabled. **Always Perform Integrity Check**—Performs integrity check on every boot.
First Power On Date	Allows you the set Ownership date. The option **Set Ownership Date** is not set by default.

System logs

Table 31. System Logs

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

Advanced configuration

Table 32. Advanced configuration

Option	Description
ASPM	Allows you to set the ASPM level. • Auto (default) - There is handshaking between the device and PCI Express hub to determine the best ASPM mode supported by the device • Disabled - ASPM power management is turned off at all time • L1 Only - ASPM power management is set to use L1

SupportAssist System Resolution

Option	Description
Auto OS Recovery Threshold	Allows you to control the automatic boot flow for SupportAssist System. Options are: • Off • 1 • 2 (Enabled by default) • 3
SupportAssist OS Recovery	Allows you to recover the SupportAssist OS Recovery (Enabled by default).
BIOSConnect	BIOSConnect enable or disable cloud Service OS upon absence of Local OS Recovery (Enabled by default).

Updating the BIOS

Updating the BIOS in Windows

About this task

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

Steps

1. Go to www.dell.com/support.
2. Click **Product support**. In the **Search support** box, enter the Service Tag of your computer, and then click **Search**.

   NOTE: If you do not have the Service Tag, use the SupportAssist feature to automatically identify your computer. You can also use the product ID or manually browse for your computer model.

3. Click **Drivers & Downloads**. Expand **Find drivers**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. After the download is complete, browse the folder where you saved the BIOS update file.
8. Double-click the BIOS update file icon and follow the on-screen instructions.
   For more information, see knowledge base article 000124211 at www.dell.com/support.

Updating the BIOS in Linux and Ubuntu

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

Updating the BIOS using the USB drive in Windows

About this task

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

Steps

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

Updating the BIOS from the F12 One-Time boot menu

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

About this task

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

BIOS Update

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

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

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

Updating from the One-Time boot menu

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

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

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

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

Steps

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

System and setup password

Table 33. System and setup password

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

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

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

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

NOTE: System and setup password feature is disabled.

Assigning a system setup password

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 F12 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.
   - At least one special character: ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
   - Numbers 0 through 9.
   - Upper case letters from A to Z.
   - Lower case letters from a to z.
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. Press Esc and save the changes as prompted by the pop-up message.
5. Press Y to save the changes.
   The computer restarts.

Deleting or changing an existing system setup password

Prerequisites

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.

About this task

To enter the System Setup, press F12 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**, update, or delete the existing system password, and press Enter or Tab.
4. Select **Setup Password**, update, or delete the existing setup password, and press Enter or Tab.

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

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

Clearing BIOS (System Setup) and System passwords

About this task

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

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

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Getting help and contacting Dell

Self-help resources

You can get information and help on Dell products and services using these self-help resources:

Table 34. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
My Dell app	
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals and documents.	Your Dell computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at www.dell.com/support. For more information on how to find the Service Tag for your computer, see Locate the Service Tag on your computer.
Dell knowledge base articles for a variety of computer concerns	1. Go to www.dell.com/support. 2. On the menu bar at the top of the Support page, select **Support** > **Knowledge Base**. 3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

NOTE: Availability varies by country/region and product, and some services may not be available in your country/region.

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