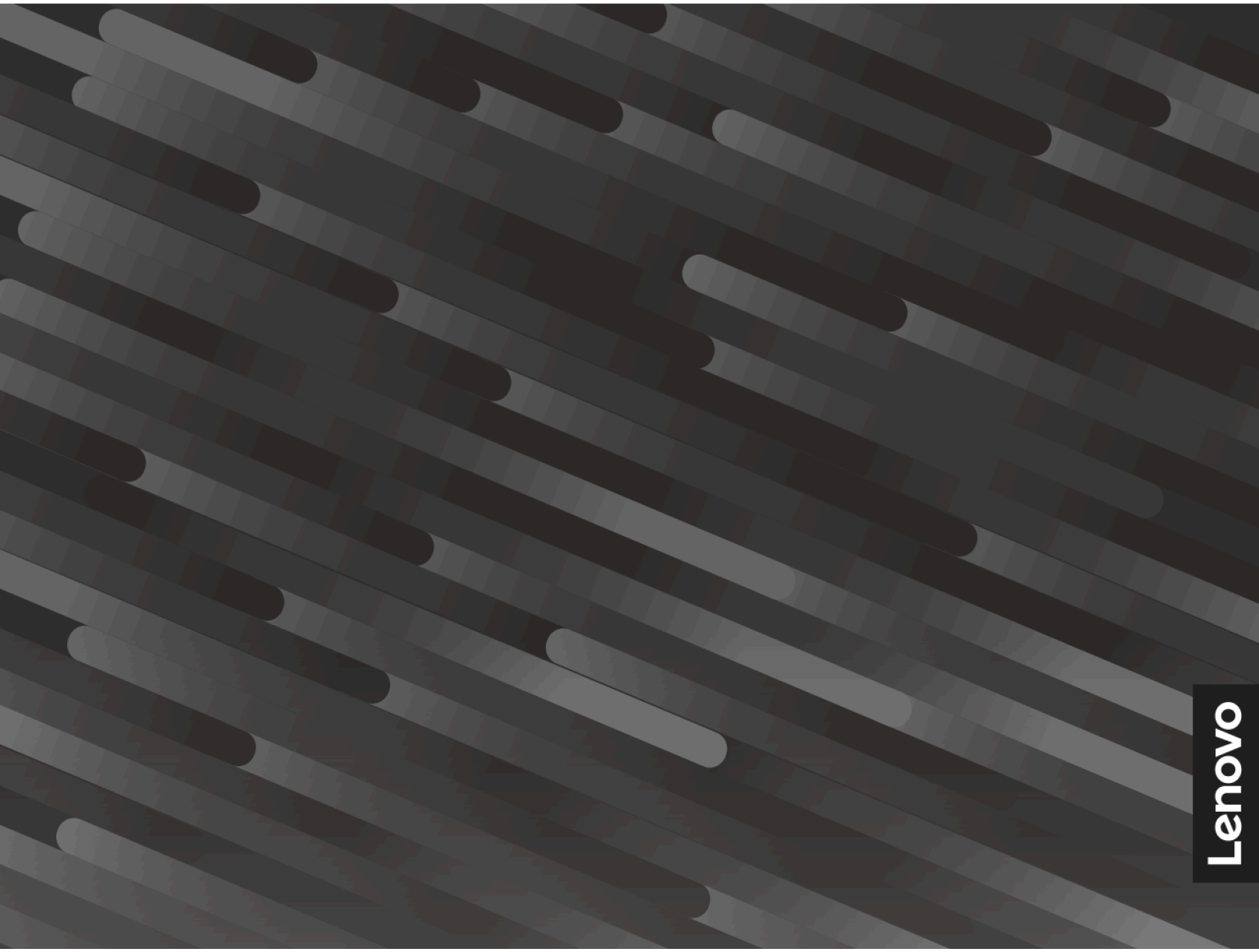
User Guide



Lenovo V15 G7

Read this first

Before using this documentation and the product it supports, ensure that you read and understand the following:

- *Generic Safety and Compliance Notices*
- *Safety and Warranty Guide*
- *Setup Guide*

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About this *User Guide*

This *User Guide* is intended for users of the Lenovo personal computer (PC) products listed in the table below. It provides feature descriptions, specifications, and operating instructions to assist users with the daily operation of their PCs. Additionally, it offers support resources to help users troubleshoot issues independently or obtain assistance when needed.

Table 1: Models supported by this User Guide

Model name	Machine type
Lenovo V15 G7 Q7X	83YW
Lenovo V15 G7 Q7X 1	

PCs are general-purpose computing devices. Users interact with a PC through the interface provided by the operating system, on top of which additional applications can be installed to enhance and extend the PC's functionality. In fact, the ability to add and install applications is what makes PCs so versatile and popular. Given the open nature of PCs, it is impossible to cover every aspect of PC usage in this guide. Instead, this guide provides information on features and functions available out of the box, focusing on essential, security, and convenience features that enable you to use the PC effectively, securely, and efficiently. We hope the information provided here serves as a starting point from which your knowledge and creativity will guide you in transforming this PC into a valuable companion for learning, leisure, entertainment, and academic or professional endeavors. For questions not covered in this guide, please refer to the included support resources.

Other supporting documents

This *User Guide* is part of a comprehensive documentation set designed to support your use of the PC product. The documents may be specific to your product model or applicable to all Lenovo PC products and are available either as printed materials or digitally on the Lenovo Support website.

Setup Guide

A printed material included in the product packaging that provides instructions to help you connect your PC to a power source and turn it on for the first time.

Safety and Warranty Guide

A printed material included in the product packaging that contains important safety information you must read before using your PC. It also provides compliance statements and disclosures required by applicable laws and regulations.

Note:

This is a generic document intended for use with all Lenovo PC products and may contain information that does not apply to your specific product model.

Generic Safety and Compliance Notice

A digital document in Portable Document Format (PDF) that contains important safety information you should know while using your PC. It also provides compliance statements and disclosures required by applicable laws and regulations.

Note:

This is a generic document intended for use with all Lenovo PC products and may contain information that does not apply to your specific product model.

Hardware Maintenance Manual

A digital document in Portable Document Format (PDF) and Hypertext Markup Language (HTML), primarily intended for Lenovo service technicians, contains instructions for disassembling and servicing the product. This document is made available to users in accordance with applicable laws and regulations that protect customers' rights to independently service their products.

Regulatory Notice

A digital document in Portable Document Format (PDF) containing radio frequency-related statements or disclosures as required by applicable laws and regulations.

Notice regarding the accuracy of information

Product illustrations in this *User Guide* are intended to demonstrate features and may include details that differ from those of the actual product. This *User Guide* may cover multiple product models or configurations and, as such, may include feature descriptions that do not apply to your specific model or configuration.

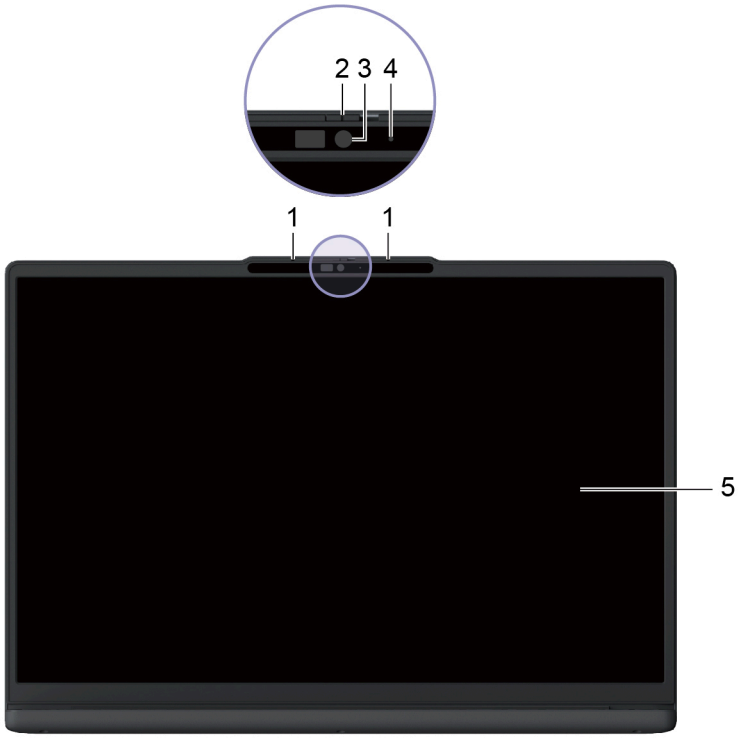
Many operating instructions, especially those on device configuration and setup are closely related to the operating system. If you install a different operating system than what is described in this guide, some instruction provided may not apply.

Both the operating system and applications can now be updated over the Internet. As a result, the feature descriptions and operating instructions related to the operating system and applications may differ from the actual features and operations.

Chapter 1 Product overview and specifications

This chapter presents product illustrations with key user interface components labeled and explained to help you identify and locate them, as well as understand the basic functionalities they provide during routine PC use. The specifications at the end of this chapter offer technical details of the included devices, along with the designed limits for the operation and storage of the PC.

Front view



No.	Description
1	Microphones
2	Camera shutter
3	Camera
4	Camera light
5	Screen

Microphones

The microphones are the PC's built-in sound input devices. They capture your voice and ambient sound and convert them into digital form. Microphones are essential components when you use your PC for video conferencing or voice recording.

Camera shutter

The camera shutter is a sliding cap that you can move to block the camera lens.

Note:

The camera shutter is designed for privacy protection. When the camera lens is blocked, the camera function is disabled.

Camera

The built-in camera captures visible light and converts it to digital signals. It is used for video recordings and video conferencing.

Camera light

The camera light indicates whether the camera is activated.

Table 2: Camera light status and description

Camera light status	Description
On	The camera is activated.
Off	The camera is not activated.

Screen

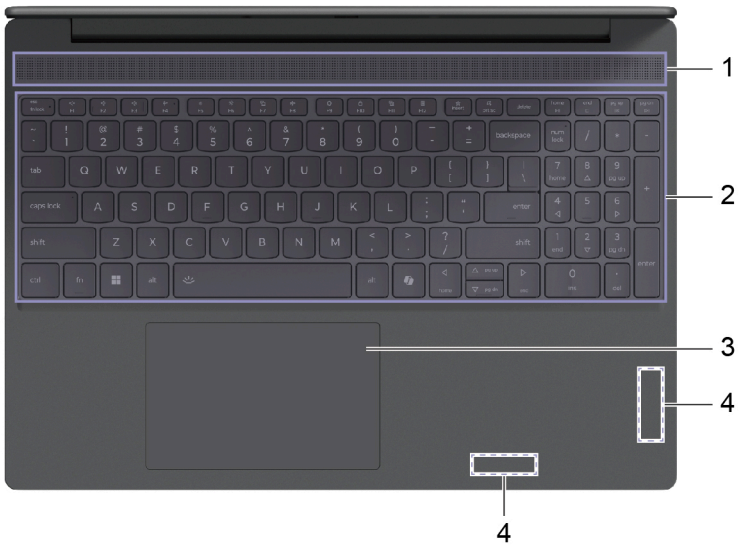
The screen of the built-in display is where text, graphics, and videos are displayed.

Some models offer touch-enabled screens, which allow you to interact with your PC by intuitively touching buttons, icons, and menu items displayed on the screen. Touch-enabled screens also support multi-finger gestures.

Related information

The display device on page 19

Base view



No.	Description
1	Speakers
2	Keyboard
3	Touchpad
4	Antennas

Keyboard

The keyboard is the primary input device for a PC, designed for typing characters. A Lenovo keyboard also includes shortcut keys that enhance productivity when interacting with the PC, applications, and the Windows operating system.

Note:

Keyboard layouts vary by language and region, so your PC's keyboard may differ from the illustrations in this publication.

Related information

Hotkeys on page 21

Speakers

The speakers are the PC's built-in sound output devices.

Touchpad

The touchpad is the PC's built-in pointing device, which provides the basic functionality of an external mouse. Slide your finger on the touchpad to move the pointer on the screen and tap or double-tap to select or execute a screen item.

The touchpad also supports Windows multi-finger gestures, which provide shortcuts to frequently used apps and functions.

Related tasks

Modify the default functions for touchpad gestures on page 25

Related information

Touchpad gestures on page 24

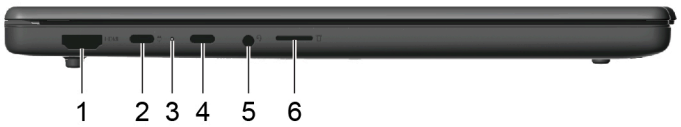
Antennas

The antennas transmit and receive radio waves to allow data to be transferred between your PC and a Wi-Fi network device or a Bluetooth device.

Note:

The antennas are hidden inside the PC.

Left view



No.	Description
1	HDMI™ connector
2	Multi-purpose USB Type-C® connector
3	Charging light
4	Multi-purpose USB Type-C connector
5	Combo audio jack
6	microSD card slot

HDMI connector

The HDMI connector is used to connect an external display device, such as a television, a projector, or a monitor.

Multi-purpose USB Type-C connector

This USB Type-C® connector is the PC's power input connector. Use the included power adapter and this connector to supply power to the PC.

Note:

This multi-purpose USB Type-C connector complies with the USB Power Delivery specification. If your PC is sold without an included ac power adapter, you can reuse an existing USB Power Delivery–capable charger or purchase one separately. Refer to the specifications section in

this publication for the minimum and maximum negotiable power levels supported by this connector.

When this connector is not used by the included power adapter, it can also be used to connect:

- Storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection
- Display devices

> **Note:**
>
> When connecting display devices, you need to use appropriate cables and adapters (if needed) according to the connection capabilities of the display device.

Charging light

The charging light indicates whether the PC is plugged into an electrical outlet. When the PC is plugged into an electrical outlet, the color of the light indicates whether the battery is fully charged (or will shortly be fully charged).

Table 3: Charging light statuses and descriptions

Light status	Plugged in?	Battery charge level
Off	No	/
On, amber	Yes	1%–90%
On, white	Yes	91%–100%

Multi-purpose USB Type-C connector

This multi-purpose USB Type-C® connector is used to connect:

- Storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection
- Display devices

> **Note:**
>
> When connecting display devices, you need to use appropriate cables and adapters (if needed) according to the connection capabilities of the display device.

This multi-purpose USB Type-C connector complies with the USB Power Delivery specification. If your PC is sold without an included ac power adapter, you can reuse an existing USB Power Delivery–capable charger or purchase one separately. Refer to the specifications section in this publication for the minimum and maximum negotiable power levels supported by this connector.

Combo audio jack

The combo audio jack is used to connect single-plug headsets, headphones, or external speakers.

microSD card slot

The microSD card slot is used to insert a microSD, microSDHC, or microSDXC memory card to transfer data between the memory card and your PC.

Right view



No.	Description
1	Novo button hole
2	Power light
3	Power button
4	USB Standard-A connectors

Novo button hole

When the PC is powered off, you can press the Novo button to display the Novo button menu. From the menu, you can then choose to:

- Open the firmware setup utility
- Display the boot device selection menu
- Display the Windows advanced startup options page

Note:

The Novo button is rarely used during normal PC operations. To prevent users from accidentally pressing it, the Novo button is placed in a recessed hole. You can use a straightened paper clip to press this button.

Related information

Firmware setup program on page 27

Power light

The power light indicates the current power state of the PC: whether it is powered on, powered off, in sleep mode, or in hibernation mode.

When the PC is powered on, this light can also indicate low battery by blinking rapidly.

Table 4: Power light status and description

Light status	Power state	Battery charge level
White (solid on)	Powered on	21%–100%
White (blinking rapidly)	Powered on	1%–20%
White (blinking slowly)	In sleep mode	/

Light status	Power state	Battery charge level
Off	Powered off or in hibernation mode	/

Power button

Press the power button to turn on your PC.

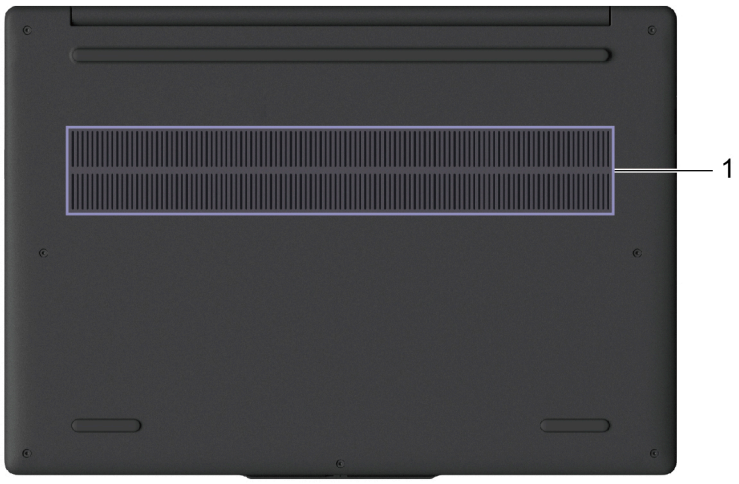
Note:

By default, on a Windows PC, pressing the power button when the PC is turned on will put the PC into sleep mode.

USB Standard-A connector

The USB Standard-A connector is used to connect storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection.

Bottom view



No.	Description
1	Air vents (intake)

Air vents (intake)

The air vents allow air to be sucked inside of the PC to cool the internal components.

Important:

When the PC is operating, do not place it on a bed, sofa, carpet, or other flexible surfaces. Otherwise, the air vents will be blocked and the PC may overheat, reducing performance or causing the PC to be unresponsive or even shut down.

Specifications

Dimensions

Item	Value or specification
Width	343.4 mm (13.5 inches)
Depth	241.5 mm (9.5 inches)
Thickness	• Thinnest: 17.9 mm (0.7 inches) • Thickest: 18.9 mm (0.7 inches)

ac power adapter

Item	Value or specification
Input	100 V ac-240 V ac, 50 Hz-60 Hz
Output voltage	20 V
Maximum current	3.25 A
Maximum power	65 W

Note:

The PC is available in certain countries or regions without an included ac power adapter.

Rechargeable battery pack

Item	Value or specification
Capacity	50 Wh **Note:** The battery capacity is the typical or average capacity as measured in a specific test environment. Capacities measured in other environments may differ but are no lower than the rated capacity (see product label).
Cell type	Rechargeable Li-ion Battery
Number of cells	3

Memory

Item	Value or specification
Type	LPDDR5X
Installation	On-board
Number of physical slots	0

Mass storage device

Item	Value or specification
Type	• Universal Flash Storage (UFS), or • Solid-state drive (SSD)
Slot quantity	• For UFS models: 0 • For SSD models: 1
Slot type	• For UFS models: On-board • For SSD models: M.2 (2242)

Display

Item	Value or specification
Size	388.6 mm (15.3 inches)
Resolution	1920 × 1200 pixels (WUXGA model)
Maximum refresh rate	• 60 Hz, or • 120 Hz (only for touch-enabled screens)
Screen type	LCD

Keyboard

Item	Value or specification
Shortcut keys	• Function keys • Hotkeys
Modifier keys	• alt key • ctrl key

Item	Value or specification
	• shift key • Windows key • fn key
Special keys or key group	Numeric keypad

Connectors and slots

Item	Value or specification
Combo audio jack	• Diameter: 3.5 mm • Supported plugs: - 3-pole, TRS - 4-pole, TRRS (CTIA and OMTP)
HDMI connector	• Data protocol: Transition minimized differential signaling (TMDS) • Maximum output resolution: 3840 × 2160 @ 30 Hz **Note:** Although the HDMI connector and both USB Type-C connectors on your PC support external display, when used simultaneously, only the first connected external display will be functional.
Memory card slot	Supported card types: • microSD card • microSDHC card • microSDXC card • MMC (MultiMediaCard)
USB Standard-A connector	• Quantity: 2 • Power level (output) - Voltage: 5 V - Maximum current: 0.9 A • Supported signaling protocols: - USB 2.0 480 Mbps - SuperSpeed USB 5 Gbps
Multi-purpose USB Type-C connector	• Quantity: 2 • Power level - Output

Item	Value or specification
	- Voltage: 5 V - Maximum current: 3 A - Input (USB Power Delivery): - Minimum: 45 W (20 V, 2.25 A) - Maximum: 65 W (20 V, 3.25 A) **Note:** The minimum power represents the lowest acceptable power level to keep the PC operational and initiate charging of the internal battery, while the maximum power allows for the fastest charging speed. Both power levels are negotiated according to the protocols specified in the *USB Power Delivery Specification* . • Data protocol: - USB 2.0 480 Mbps - SuperSpeed USB 5 Gbps - DisplayPort™ 1.2: Maximum output resolution: 3840 × 2160 @ 60 Hz **Note:** Although the HDMI connector and both USB Type-C connectors on your PC support external display, when used simultaneously, only the first connected external display will be functional. **Note:** Data rates and performance ratings are dependent on connected devices and cables if they are used. For DisplayPort connection through a USB Type-C connector, the listed maximum output capacity is only available on external displays with a DisplayPort, a Mini DisplayPort, or a USB Type-C connector that supports DisplayPort Alternate Mode. For connections using a converter or an adapter, the actual output resolution may be lower.

Security

Item	Value or specification
UEFI/BIOS passwords	• Administrator password • User password

Networking

Item	Value or specification
Wi-Fi	• 802.11a/b/g • 802.11n • 802.11ac • 802.11ax (Wi-Fi 6, Wi-Fi 6E) **Note:** Different Wi-Fi standards may operate on different frequency bands. In some countries or regions, certain frequency bands may be prohibited for unlicensed use or may require specific conditions. Wi-Fi 6E on this PC is disabled in some countries or regions in accordance with local regulations.
Bluetooth	Bluetooth 6.0

Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
USB 3.2 Gen 1	5

Tips for selecting a certified charger

When selecting or reusing a third-party USB Type-C charger for this PC, choose a product that is safety-approved or certified.

Attention:

An uncertified charger may damage your PC or pose an electrical hazard.

In many countries and regions, manufacturers or importers of electric chargers can submit their products to certification authorities or approved and recognized testing laboratories. These products typically bear a mark indicating that they meet the relevant quality and safety standards. In some countries and regions, this certification process is mandatory.

If you live in mainland China, choose a charger with the "CCC" mark. For users in many European countries, select one with the "CE" mark. For users in the United States and Canada, choose a charger listed by one of the Nationally Recognized Testing Laboratories (for example, the "UL Listed" mark). For people living in other countries or regions, consult a qualified electrical engineer to learn how to select a safety-approved electric charger.

Operating environment

Maximum altitude (without pressurization)

3048 m (10 000 ft)

Temperature

- At altitudes up to 2438 m (8000 ft)
  - Operating: 5°C to 35°C (41°F to 95°F)
  - Storage: 5°C to 43°C (41°F to 109°F)
- At altitudes above 2438 m (8000 ft)
  - Maximum temperature when operating under the unpressurized condition: 31.3°C (88°F)

Note:

When you charge the battery, its temperature must be no lower than 10°C (50°F).

Relative humidity

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage: 5% to 95% at wet-bulb temperature 27°C (81°F)

Avoid constant body contact with specific hot sections

CAUTION:

When the computer is operating, it should be placed on a hard and flat surface with its bottom area not in contact with user's bare skin. Under normal operating conditions, the temperature of the bottom surface will remain within an acceptable range as defined in *IEC 62368-1*, but such temperatures can still be high enough to cause discomfort or harm to the user if directly touched for over one minute at a time. As such, it is recommended that users avoid prolonged direct contact with the bottom of the computer.

Chapter 2 Daily use

This chapter provides instructions to help you set up your PC and get it running, while also highlighting out-of-the-box features that enable you to use the PC efficiently and effectively. Please keep in mind that many of the instructions in this chapter are closely related to the preinstalled operating system and applications and may become outdated due to updates delivered over the Internet.

Your PC and its operating system

The operating system is essential software for a PC. It manages the hardware devices of the PC, provides utility applications and user interfaces, and enables the installation of various applications for a wide range of purposes.

Your PC comes with Windows 11 pre-installed.

Initial setup of the Windows operating system

When you turn on your PC for the first time, the Windows operating system will guide you through the initial setup process. Most importantly, you will:

- Create a user account
- Connect to a wireless network that has Internet access
- Select language-related settings

> **Note:**
>
> If you choose to set up Windows for personal use, you must either use an existing Microsoft account or create a new one. You can switch to a local account after the initial setup.

Windows Update

From time to time, your PC receives update notifications. These notifications may include new features, security updates, and device drivers. While security-related updates are typically downloaded and installed automatically, you can manually control the installation of other available updates.

In Windows Update, you can view available updates, manually check for updates, and configure settings related to updates. To navigate to Windows Update, select **Settings** > **Windows Update**.

Windows recovery options

While using your PC, you may encounter various issues. Windows provides several recovery options to help restore your system to normal functionality. The table below will help you choose the right option for different situations.

Table 5: Windows recovery options

Situations	Recovery options
Windows runs much slower after you install an app.	Restore Windows from a system restore point.

Situations	Recovery options
Windows hasn't been functioning properly for some time.	Reset your PC while keeping your personal files.
Your PC won't start.	Utilize Windows startup repair function.
Your PC won't start and cannot be repaired using Windows startup repair function.	Use a recovery drive to restore Windows.

Reset Windows

Resetting Windows allows you to reinstall the operating system while retaining your personal files. This gives the operating system a fresh start and, in some cases, restores the PC's original performance.

1. Select **Settings** > **System** > **Recovery**.
2. Under recovery options, select **Reset PC**.
   When prompted, choose between **Keep my files** and **Remove everything**.
3. Follow the on-screen instructions to complete the reset process.

Create a recovery drive

It is advisable to create a recovery drive after completing the initial setup of Windows. If you encounter a significant issue that prevents Windows from starting, you can use the recovery drive to restore the operating system on your PC.

1. Prepare an empty USB drive with a storage capacity of 32 GB or more.
2. In the search box on the taskbar, type **Create a recovery drive** and select the matched app.
3. Make sure **Back up system files to the recovery drive** checkbox is selected and select **Next**.
4. When prompted, connect the USB drive to your PC, select it, and then select **Next**.
5. Select **Create**.

Restore Windows using a recovery drive

If the Windows operating system fails to start, you can use a previously created recovery drive to restore Windows onto your PC.

1. Shut down your PC.
2. Connect the recovery drive to your PC.
3. Press the Novo button or the Lenovo Smart Key ☆ to open the Novo button menu.
4. Select **Boot Menu**.
5. Select the USB drive as the boot device.
   The PC will start to the Windows Recovery Environment.
6. Follow the on-screen instructions to restore Windows onto your PC.

Use power efficiently

As an electronic device, your PC requires electricity to operate. The Windows operating system provides advanced power management features for the devices within your PC. You can take advantage of these features to use your PC in an energy-efficient manner.

Shut down your PC

When you have finished using your PC and do not plan to resume shortly, shut it down.

1. Select **Start** > **Power**.
2. Select **Shut down**.

Put your PC into sleep mode

If you need to stop using your PC but plan to resume shortly, you can put it into sleep mode. Your PC will wake up more quickly from sleep mode, allowing you to return to where you left off with your work.

1. Select **Start** > **Power**.
2. Select **Sleep**.

Adjust timeout settings for saving power

Setting appropriate timeouts for your PC to enter sleep mode and for the built-in screen to turn off is an effective method of reducing your PC's power consumption. The Windows operating system comes with default timeout settings for these two items, which you can adjust to better suit your preferences.

1. Select **Start** > **Settings** > **System** > **Power & battery** > **Screen, sleep, & hibernation timeouts**.
2. Adjust the settings.

   For notebook PCs, you can set distinct timeouts for two usage scenarios: when the PC is plugged in and when it is running on battery power.

Default timeout settings for power saving

The operating system on your PC has the following timeouts enabled by default. You can adjust these settings to better suit your preferences.

Note:

Setting appropriate timeouts is an effective method of reducing your PC's power consumption. Avoid setting excessively long timeouts to effectively disable this power-saving feature.

Table 6: Default timeout settings for the PC to enter sleep mode and the screen to turn off

Power saving action	Power state	Timeout (minute)
Turn off the screen	Plugged in	5
	On battery	3
Put the PC into sleep mode	Plugged in	5
	On battery	3

Note:

To wake the PC from sleep mode, press the power button or any key on the keyboard.

Rechargeable battery pack

Your computer includes a built-in, rechargeable battery pack that makes mobile computing a reality. When the computer is plugged into an electrical outlet, the battery charges. If you use the computer when you don't have access to an electrical outlet, the battery discharges to supply electricity that the computer system requires for operation.

You can charge the battery any time you want. The battery packs of Lenovo computers support multiple charging modes that are suitable for different power usage habits. You can switch the battery's active charging mode in Lenovo Vantage or Lenovo PC Manager.

Battery charging is also affected by its temperature. The recommended temperature range for charging the battery is between 10°C (50°F) and 35°C (95°F).

Note:

To maximize the life of the battery, once the battery is fully charged, it must discharge to 94% or lower before it will be allowed to recharge again.

Normal mode

Normal mode is the most basic charging mode. In normal mode, it typically takes 2 to 4 hours for the battery to charge from 0% to 100%.

Conservation mode

If your computer is constantly plugged into an electrical outlet, consider switching the battery charging to conservation mode. In conservation mode, the battery will not be fully charged. Instead, the battery's charge will be kept within 75%–80%. This is beneficial to the long-term health of the battery.

Note:

If you want the battery to be fully charged before bringing the computer to work, disable conservation mode by switching the battery charging to normal or rapid charge mode.

Recover full battery capacity

If your computer is constantly plugged in to an electrical outlet and the battery rarely discharges, the battery may not be charged to its full capacity even if the battery meter reports 100% charge. You can recover the battery's full charging potential simply by discharging and re-charging the battery.

1. Unplug the computer and use it until the battery charge drops below 20%.
2. Plug in the computer and charge the battery to 100%.

Set power button behavior

By default, pressing the power button puts the computer to sleep mode. However, you can change the power button behavior in Windows Control Panel.

1. Type Control Panel in the Windows search box and then press Enter. Open the control panel and view by large or small icons.
2. Select the power options and then click to choose what the power button does.

Set up Internet access

In your home or office, Internet access is typically provided through Wi-Fi-enabled networks. You can connect to such a network to access the Internet. The Windows operating system provides utilities that assist in searching, connecting to, and managing wireless networks within range.

1. Select the Network, Sound, and Battery icons ( ) on the right side of the taskbar to open quick settings.
2. On the quick settings pane, select the > symbol next to the network icon.
   Wireless networks within range should be displayed.
3. Select the network you want to connect to and then select **Connect**.
4. Enter the network security key when prompted.

Interact effectively with your PC

You interact with your PC through its input and output devices. You spend a significant amount of time looking at the screen, where the user interface and content are displayed. The speakers produce sound, allowing you to listen to music or a voice recording. You type with the keyboard and navigate with the touchpad. You can join and participate in a web conference using the built-in camera and microphone.

Apart from the built-in devices, you can connect both wired and wireless external devices to enhance your interaction with your PC.

The display device

The built-in display is your PC's primary visual output device. The display for selected models is touch-enabled. For those models, you can tap and swipe directly on the screen. You can also use multi-touch gestures on the screen to navigate within Windows more efficiently.

Touch screen gestures (for selected models)

The screen of selected models of this PC is touch-enabled. If your PC is equipped with a touch-enabled display, you can tap or swipe on the screen to interact with your PC. In addition, the Windows operating system also supports multi-finger gestures on the touch screen to enhance productivity while interacting with the operating system.

Table 7: Touch screen gestures

Gesture	Function
Swipe in from the left edge of the screen	Shows Widgets
Swipe in from the right edge of the screen	Shows Notification Center
Swipe in from the bottom edge of the screen	Shows the Start menu
Swipe vertically with two fingers	Scrolls pages
Place two fingers on the screen and pinch in or stretch out	Zooms out / zooms in
Swipe up with three fingers	Shows all open windows
Swipe down with three fingers	Retruns to the desktop

Turn on night light

The night light feature in Windows 11 enables users to switch to warmer color tones, reducing blue light emission to alleviate eye strain or fatigue.

1. Open the quick settings menu by selecting the network, sound, or battery icons ( ) on the far right of the taskbar or by using the keyboard shortcut ⊞ + A.

2. Select the button for night light to turn it on or off.

> **Note:**
>
> Some Windows 11 versions allow users to customize their quick settings. If the night light button is not visible, you can add it to the quick settings menu by selecting the edit button ( ).

For more tips on reducing eye strain or fatigue, visit https://www.lenovo.com/us/en/compliance/visual-fatigue.

Adjust color temperature

If Windows 11 night light mode is turned on, you can adjust the color temperature of the screen.

1. Select **Start** > **Settings**.
2. Select **System** > **Display** > **Night light settings**.
3. Move the slider to adjust the color temperature.

> **Note:**
>
> Selected Lenovo PCs are low blue-light certified. These PCs undergo testing with the night light turned on and the color temperature value set at 48 or above.

Connecting external displays

Your PC has a built-in screen that displays text, images, videos, and software interfaces, which is sufficient for many situations.

Both USB Type-C connectors on your PC support DisplayPort Alt Mode, when used simultaneously, only the first connected external display will be functional. The type of cable required depends on the input connectors available on the target display device.

If the target display includes a USB Type-C connector that also supports DisplayPort Alt Mode, you can use a cable with a USB Type-C plug on both ends for the connection.

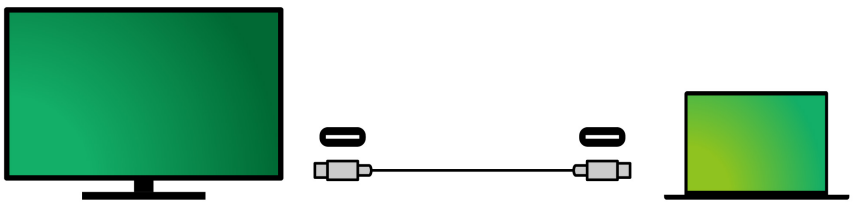


Figure 1: Connecting an external display with a USB Type-C connector that supports DisplayPort Alt Mode

The USB Type-C input connector on some displays may also support USB Power Delivery. If your PC is connected to such a connector, it can receive power from the display while simultaneously transmitting display data through the same connection.

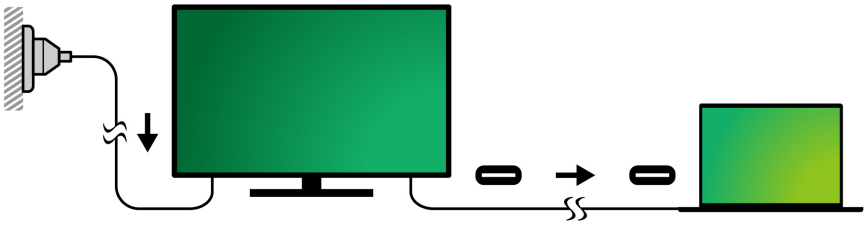


Figure 2: A connected display supplies power to the PC through the Power Delivery-compliant USB Type-C connector

If the target display only includes a DisplayPort or HDMI connector, you can use a cable with a USB Type-C plug on one end, and a DisplayPort or HDMI plug on the other for the connection.

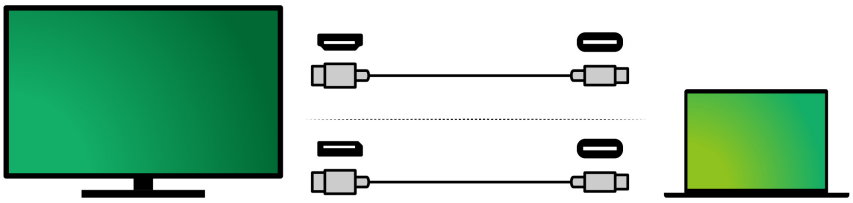


Figure 3: Connecting an external display with an HDMI or DisplayPort connector

Keyboard

Hotkeys

Hotkeys provide quick access to frequently used settings and applications. Typically located in the top row of the keyboard, they often share keys with the function keys (F1–F12) and several other keys. Each hotkey's function is denoted by the icon printed on the key.

Table 8: Hotkey functions

Hotkey icon	Function description
	Mutes/Unmutes sound.
	Decreases volume.
	Increases volume.
	Enables/Disables the microphone.
	Decreases screen brightness.
	Increases screen brightness.
	Selects and sets up display devices.
	Enables/Disables airplane mode.
	Opens the Settings app.
	Locks the screen.

Hotkey icon	Function description
	Opens the Smart Connect app or goes to the download page for the Smart Connect app.
	Opens the Calculator app.
	Opens an application launch panel or a pre-installed PC management application.
	Takes a screenshot.

The fn lock switch

The fn lock is an electronic switch that affects how you use hotkey functions. To turn it on and off, press fn + esc.

Note:

The esc key is in the upper left corner of the keyboard. It has an LED that indicates the status of the fn lock switch.

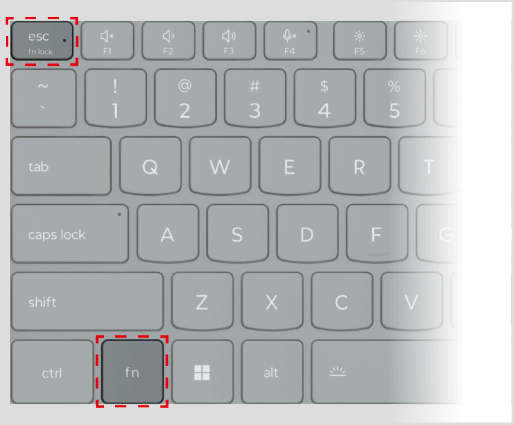


Figure 4: Locations of the fn lock key and the fn key

A Lenovo keyboard usually contains hotkeys in the top row. These hotkeys share keys with the function keys (F1–F12) and other keys. For these dual-function keys, the icons or characters denoting the primary functions are printed on top of the icons and characters denoting the secondary functions.

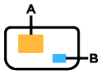


Figure 5: The layout of a dual-function key

- A: an icon or character denoting the primary function
- B: an icon or character denoting the secondary function

Table 9: fn lock and dual-function keys

fn lock (esc) LED	fn lock status	Pressing the hotkey alone	Pressing the hotkey while holding down the fn key
Off	Disabled	Primary function	Secondary function
On	Enabled	Secondary function	Primary function

Combination keys using the fn key

The fn key can be used in combination with specific keys to adjust device settings or activate additional functions.

Table 10: fn-based key combinations

Key combination	Function
fn + M	Enables/disables the touchpad
fn + N	Shows key device information
fn + B	Break
fn + P	Pause
fn + S	SysRq
fn + K	ScrLk
fn + I	Insert
fn + T	PrtScr
fn + left arrow	Home
fn + right arrow	End
fn + up arrow	PgUp
fn + down arrow	PgDn

Combination keys using the Windows logo key

The Windows logo key is located in the lower-left corner of the keyboard. It can be used alone or in combination with specific keys to quickly change settings and access utilities within the Windows operating system. The table below lists frequently used key combinations. For a complete list of all key combinations that utilize the Windows logo key, please refer to the official Microsoft online documentation.

Table 11: Windows logo key combinations

Key or key combination	Function
Windows logo key ⊞	Opens or closes the Start menu

Key or key combination	Function
+ A	Opens or closes Quick Settings
+ D	Returns to the desktop
+ E	Opens File Explorer
+ I	Opens Settings
+ L	Locks the screen
+ M	Minimizes all open windows
+ N	Opens or closes the Notification Area
+ P	Switches multi-screen modes
+ W	Opens or closes Widgets
+ ; (semicolon)	Opens the emoji panel
+ Tab	Opens or closes Task View
+ PrtSc	Takes a full-screen screenshot and saves it to a file

The Copilot key

The era of AI has arrived, and many Lenovo PCs now include a Copilot key on the keyboard. It is located either in the bottom or the top row of the keyboard and is marked with .

For Windows PCs with Copilot in Windows available and enabled, pressing the Copilot key opens Copilot in Windows. Otherwise, pressing the Copilot key opens Windows Search.

Note:

Copilot in Windows may not be available in all geographical locations. In regions where Copilot in Windows is available, you may need to update your Windows operating system to version 23H2 or later through Windows Update for Copilot in Windows to become available.

Numeric keypad

Some Lenovo computers include a dedicated numeric keypad on the far right of the keyboard. The keypad is used for entering numbers and operators quickly.

Press the **num lock** key to enable or disable the numeric keypad.

Touchpad gestures

The Windows operating system supports multi-finger gestures on the touchpad, enhancing productivity while interacting with the operating system.

Table 12: Multi-finger touchpad gestures

Number of fingers to use	Gesture	Function
Two	Swipe vertically	Scrolls pages

Number of fingers to use	Gesture	Function
Two	Pinch in or stretch out	Zooms out / Zooms in
Two	Tap	Displays the context menu (right-clicking)
Three	Swipe up	Shows all open windows
Three	Swipe down	Returns to the desktop
Three	Swipe left or right	Switches between open apps
Three	Tap	Opens Windows Search

Modify the default functions for touchpad gestures

The functions for three-finger touchpad gestures can be modified in Windows Settings.

1. Select **Settings** > **Bluetooth & devices** > **Touchpad**.
2. Under **Three-finger gestures**, use the drop-down lists to modify the functions for the swipe or tap gestures.

Installing applications

Applications are software programs developed by individuals and software companies. They are typically installed on top of the operating system to provide specialized functions. To install an application on your PC, you generally have two options.

- Download and install the application from your operating system's app store.
- Download the installation package from the developer's website and run the installation file to install it on your PC.

Note:

Applications are usually licensed for use. When downloading and installing applications, be sure to check their license files, which contain the terms and conditions for use. For proprietary applications, you typically need to pay a licensing fee to install and use the software.

Pre-installed Lenovo-developed applications

As a PC manufacturer, Lenovo develops applications and may preinstalled some of them on PCs that come with an operating system to help users maximize their PC experience, especially when they are just getting started. This section highlights the Lenovo-developed applications that we believe will be particularly useful to you.

Lenovo Vantage

PCs are complex computing devices composed of numerous components, which can be categorized into power, display, sound, input, network, and other devices. Typically, these devices operate as intended without user intervention. However, there are times when you may want to adjust their settings to enable specific functions or enhance your experience for particular use cases.

The settings for these devices can be accessed through the operating system's settings utility. Lenovo also offers an app called Lenovo Vantage, which provides comprehensive, centralized, and more advanced control over the devices included in the PC. Additionally, it features combined,

pre-defined settings for common usage scenarios in the form of modes. Instead of adjusting multiple individual settings, you can simply select or switch a mode, making PC usage much easier.

Lenovo Vantage is typically pre-installed on Lenovo PCs that come with a Windows operating system. You can open the application from the Windows Start menu by locating it in the app list or by searching for its name. If Lenovo Vantage is not pre-installed or if you need to install it after reinstalling Windows, you can download it from the Microsoft Store.

Note:

If you purchased your Lenovo PC in mainland China, Lenovo PC Manager may be pre-installed instead of Lenovo Vantage. Lenovo PC Manager offers features similar to those of Lenovo Vantage and may include functionalities specifically tailored for local users.

Frequently used settings within Lenovo Vantage

The following table highlights settings within Lenovo Vantage that you may want to enable or adjust to enhance your PC experience for specific use cases or to better suit your preferences.

Table 13: Frequently used settings within Lenovo Vantage

Settings	Section within Lenovo Vantage	Description	Benefits
Conservation mode	Power	A toggle switch. When enabled, the battery stops charging once it reaches 80% of its full capacity.	It is beneficial for the battery's lifespan, especially if your PC is constantly connected to a power source.

Chapter 3 Firmware

When you power on your PC, a series of instructions are executed to initialize devices, identify a boot device, and locate a program called the bootloader. The bootloader then searches for the operating system installed on your PC and transfers control to it. Once the operating system has started, your PC is ready for use.

These instructions are stored on a flash memory chip located on the PC's system board. The flash memory chip and the instructions it contains are collectively referred to as the PC's firmware.

Firmware setup program

Lenovo PCs typically include a setup program in the firmware that allows you to:

- View information about your PC and its devices
- Change device settings
- Change the order of boot devices
- Set passwords for the firmware and the mass storage device

Note:

You should rarely need to use the setup program for your daily PC usage. To view device information, you can use the utilities provided by the operating system or applications provided by Lenovo (Lenovo Vantage or Lenovo PC Manager). You can use the Novo button menu to temporarily change the order of boot devices.

There are several ways to open the setup program:

- Utilize the Advanced startup feature of the Windows operating system
- Use the Novo button menu
- Start or restart your PC and press an interrupt key (F1 or F2)

Related information

Novo button hole on page 6

Password types

You can set various types of passwords in the firmware setup utility.

Password type	Pre-requisite	Usage
Administrator password	No	You must enter it to start the setup utility.
User password	The administrator password must be set.	You can use the user password to start the setup utility.

Note:

If you start the setup utility using the user password, you can only change a few settings.

Set administrator password

You set the administrator password to prevent unauthorized access to the firmware setup utility.

> **Attention:**
>
> If you forget the administrator password, a Lenovo authorized service personnel cannot reset your password. You must take your computer to a Lenovo authorized service personnel to have the system board replaced. Proof of purchase is required and a fee will be charged for parts and service.

1. Open the firmware setup utility.
2. Select **Security** > **Set Administrator Password** and press Enter.
3. Enter a password string that contains only letters and numbers and then press Enter.
4. Enter the password again and press Enter.
5. Select **Exit** > **Exit Saving Changes**.

Next time you start the computer, you must enter the administrator password to open the setup utility. If **Power on Password** is enabled, you must enter the administrator password or the user password to start the computer.

Change or remove administrator password

Only the administrator can change or remove the administrator password.

1. Open the firmware setup utility using the administrator password.
2. Select **Security** > **Set Administrator Password** and press Enter.
3. Enter the current password.
4. In the **Enter New Password** text box, enter the new password.
5. In the **Confirm New Password** text box, enter the new password again.

> **Note:**
>
> If you want to remove the password, press Enter in both text boxes without entering any character.

6. Select **Exit** > **Exit Saving Changes**.

If you remove the administrator password, the user password is also removed.

Set user password

You must set the administrator password before you can set the user password.

The administrator of the setup utility might need to set a user password for use by others.

1. Open the firmware setup utility using the administrator password.
2. Select **Security** > **Set User Password** and press Enter.
3. Enter a password string that contains only letters and numbers and then press Enter.
   The user password must be different from the administrator password.
4. Enter the password again and press Enter.
5. Select **Exit** > **Exit Saving Changes**.

Enable power-on password

If the administrator password has been set, you can enable power-on password to enforce greater security.

1. Open the firmware setup utility.
2. Select **Security** > **Power on Password** and press Enter.

   Note:

   The administrator password must be set in advance.

3. Change the setting to **Enabled**.
4. Select **Exit** > **Exit Saving Changes**.

If power-on password is enabled, a prompt appears on the screen every time you turn on the computer. You must enter the administrator or user password to start the computer.

Chapter 4 PC and accessibility

PCs are powerful general-purpose computing devices that many individuals rely on for accessing information, connecting with friends, pursuing education, conducting research, and completing work tasks. This reliance extends to individuals with vision, hearing, cognitive, or mobility impairments, as well as to those whose abilities may decline due to illness or aging.

This chapter explores the accessibility features available on your Lenovo PC, including both hardware components and those offered by the pre-installed operating system. By gaining a comprehensive understanding of the available accessibility features and how to activate and configure them, you can enhance your PC's usability for individuals with disabilities.

Accessibility features of the PC hardware

Lenovo PCs are designed with accessibility in mind. Throughout the design process, special considerations are prioritized for individuals with disabilities and best industry practices are implemented in hardware design.

USB connectors for connecting assistive technology devices

Several types of assistive technology devices are available on the market that can be connected to a PC to enhance its accessibility. For example, a refreshable braille display is an assistive technology device that enables individuals who are both deaf and blind to use a PC. When connected to a PC, a refreshable braille display can work in conjunction with a compatible screen reader to provide tactile output in braille characters. Blind individuals who have been trained to read braille can run their fingers over the display to comprehend the information presented on the PC.

Many assistive technology devices utilize USB technology for connectivity. Most Lenovo PCs are equipped with at least one USB connector that adheres to the relevant USB specifications and is backward compatible. A Lenovo PC may feature a USB Standard-A connector, a USB Type-C connector, or both. If the plug type of the assistive technology device does not match the USB connector on your PC, you can easily purchase and use a USB adapter to resolve the issue.

Keyboard accessibility

The keyboard serves as the primary input device for many PC users. Lenovo keyboards, whether integrated or supplied separately with the PC, are designed and manufactured with accessibility in mind. This section highlights the accessibility features of Lenovo keyboards that benefit all users, including those with disabilities.

Keyboard layout

The alphabetic keys on a Lenovo keyboard are arranged in a QWERTY layout, which is standard for input devices featuring alphabetic keys. The F and J keys have bumps that make them tactilely distinguishable from other keys. This feature serves as an orientation aid for skilled typists, allowing them to rest their index fingers without looking at the keys. Some Lenovo keyboards include a separate numeric keypad. The numeric keys are organized in four rows and three columns, arranging in ascending order from left to right and bottom to top. Additionally, the 5 key features a bump to make it tactilely distinguishable.

Standard modifier keys

Lenovo keyboards are equipped with standard modifier keys for PCs, including:

- the alt key

the ctrl key
the shift key
the Windows logo key

These keys are extensively used as the modifier key for shortcuts by the operating system and other applications.

The tab key

The tab key is located in the leftmost column of the keyboard. For operating systems, applications, and web documents that are designed with accessibility in mind, users can press the tab key and alt + tab (in reverse order) to cycle through the interactive elements.

Hotkeys

Many Lenovo keyboards feature hotkeys in the top row, offering convenient access to frequently used settings.

The fn key and the fnlock

The fn key is a Lenovo-defined modifier key. It can be used with the top-row dual-function keys to switch their functionalities. It can also be used with several other keys to access Lenovo defined settings.

The fnlock is a switch that can be turned on and off by pressing fn + esc. Instead of holding down the fn key to switch the functionality of dual-function keys, you can turn on fnlock. This feature allows users to access both hotkey and function key functionalities without the need to press two keys simultaneously.

Keyboard backlight

Many Lenovo keyboards are equipped with backlights to help you use the keyboard in dark lighting conditions. The backlights can be controlled by pressing fn + Space.

Biometric devices

Some Lenovo PCs are equipped with biometric devices that facilitate easy and secure identity authentication. If your PC includes an IR LED and an IR camera, you can enable facial recognition in Windows 11. Additionally, you can use your fingerprint for authentication on PCs with a fingerprint reader. Biometric identity authentication can be particularly beneficial for users who have difficulty typing passwords.

Note:

When biometric devices are used for device authentication, they are not the only available method for this purpose. If biometric authentication fails, you can use a password or PIN to sign in to Windows.

Accessibility features of Windows 11

An operating system is a crucial piece of software installed on a PC. It plays a vital role in the PC's basic functionality by providing a user interface, various tools for system management, and a foundation upon which additional specialized applications can be installed.

Microsoft's Windows 11 is a modern operating system that comes preinstalled on many Lenovo PCs. It offers a rich set of accessibility features designed for individuals with diverse disabilities. This

section outlines the accessibility features available in Windows 11, explains how to activate them, and discusses the benefits they provide.

Note:

The following accessibility features of Windows have been tested and confirmed to deliver their essential functionalities on Lenovo PCs that come pre-installed with Windows 11.

- Narrator
- Magnifier

Configuring accessibility features in the Settings app

Windows 11 provides a centralized location within the Settings app for activating and configuring all accessibility features. You can access this section by selecting **Start** > **Settings** > **Accessibility**. Additionally, the keyboard shortcut Windows logo key + U provides quick access to this interface.

Narrator

Narrator is Windows 11's built-in screen-reading application. It can read screen content aloud to users and also accept input from the keyboard, enabling individuals with visual impairments to navigate effectively within Windows 11, use applications, and browse the web.

Start and stop Narrator

You can start and stop Narrator by selecting the toggle button for Narrator in the centralized Accessibility section of the Settings app. Additionally, the keyboard shortcut Windows logo key + ctrl + enter provides quick access to both the start and stop functions.

Customize Narrator

Narrator offers a variety of controls that allow you to customize it to suit your preferences. For example, you can install additional text-to-speech voices and select your preferred voice for Narrator. You also have the option to adjust the verbosity level to choose the type of content to be read. All Narrator settings are conveniently located in the centralized Accessibility section of the Settings app. Additionally, the keyboard shortcut Windows logo key + ctrl + N offers quick access to these settings.

Adjusting text sizes, applying a high-contrast theme, and using Magnifier

For individuals who find it difficult to see text clearly on the screen, Windows offers the options of adjusting text sizes, applying a high-contrast theme, and using Magnifier.

Adjust text sizes

If you find the text on the screen is too small to read, you can scale up the size of text displayed by Windows and other applications.

1. Select **Start** > **Settings** > **Accessibility** > **Text size**.
2. Use the slider and the preview pane to select a size that fits your need and then select **Apply**.

Apply a high-contrast theme

For individuals with low vision, Windows 11 offers contrast themes that enhance text readability by using a background color that sharply contrasts with the text.

1. Select **Start** > **Settings** > **Accessibility** > **Contrast themes**.
2. In the dropdown list for **Contrast themes**, select one option and then select **Apply**.

To exit a contrast theme, select **None** from the dropdown list. The keyboard shortcut for turning on and off contrast theme is left alt + left shift + prt sc.

Enable Magnifier

You can enable Windows 11 Magnifier to enlarge specific areas or the entire screen, making text and images easier to see.

1. Select **Start** > **Settings** > **Accessibility** > **Magnifier**.
2. Select the toggle to enable or disable Magnifier.

The keyboard shortcuts for enabling and disabling Magnifier are Windows logo key + Plus sign (+) and Windows logo key + esc, respectively. When Magnifier is enabled, you can use Windows logo key + plus sign (+) and minus sign (-) to zoom in and zoom out.

Sticky Keys

Microsoft Windows offers numerous keyboard shortcuts that require users to hold down a modifier key (such as shift, ctrl, alt, or the Windows logo key) before pressing one or more additional keys. While these shortcuts provide significant convenience for many users, they can pose accessibility challenges for individuals who have difficulty holding down multiple keys at the same time.

Sticky Keys is an accessibility feature in Windows that, when enabled, allows users to press keys in sequence to activate shortcut functions. For example, instead of holding down the ctrl key and the C key simultaneously, users can press each key individually to copy text to the clipboard.

To enable Sticky Keys, press the shift key five times in quick succession. When the confirmation dialog box appears, select **Yes**. To disable Sticky Keys, press the shift key five times again and choose **No** when prompted.

Accessible user documentation

Documentation containing instructions for the use of the product, including its accessibility features, is available in accessible formats (such as HTML and PDF) on the Lenovo Support Website. When creating documentation, a series of industry standards and best practices are followed to ensure that the content is useful to as broad an audience as possible. Additionally, automated testing tools are employed to identify issues that may hinder the accessibility of information. These issues are addressed to the extent permitted by commonly available technologies.

Accessibility features of user documentation

By adhering to industry standards and best practices, Lenovo documentation offers numerous features that facilitate the perception and understanding of the content. Additionally, several of these features are specifically designed to ensure that users of assistive technology devices can access information comparable to that available to those who do not rely on such devices.

Perceivable content

Text content is presented using popular and easy-to-read fonts. Text colors are in high contrast with the background. Non-text elements, such as graphics and videos that convey important information, are accompanied by alternative text descriptions. Users with visual impairments can utilize screen readers to access information comparable to that available to sighted users.

Understandable content

The documentation is presented visually in a well-structured and simple layout. It also includes hidden tags or other markup information that store the content's structure, which can be utilized programmatically by assistive technologies to convey this structure to users.

Operable content

Documentation includes industry-standard tags for sectioning and interactive elements, such as titles, headings, various structural components, links, buttons, and input fields. Screen reader users can utilize standard modifier keys on the keyboard to effectively navigate and interact with the documentation.

Testing documentation accessibility

Before being officially released, Lenovo documentation undergoes testing with automated tools to evaluate its accessibility. HTML documents are assessed for compliance with the success criteria outlined in the *Web Content Accessibility Guidelines* (WCAG), a widely accepted set of standards designed to enhance web document accessibility. PDF documents are evaluated for accessibility using the accessibility checker in Adobe Acrobat for the same purpose. Automated testing tools help identify elements within a document that may present challenges when rendered by screen readers and other assistive technology devices. Accessibility issues identified by these automated tools are subsequently analyzed manually and corrected as needed.

Chapter 5 Warranty, help, and support

Given the complexity and open nature of PCs, it is not uncommon to encounter issues during daily use. Lenovo PCs come with a limited warranty. During the warranty period, if you experience problems caused by defects in workmanship, you may contact Lenovo for warranty service.

Most other issues are often related to software settings that prevent the PC from functioning as expected. This chapter provides information about warranty service, as well as help and support resources you can use to resolve issues yourself or receive assistance from Lenovo, the operating system manufacturer, or other users like you.

Lenovo Limited Warranty

Lenovo PC products come with a limited warranty. The general terms and conditions, along with country- or region-specific warranty provisions, are detailed in the Lenovo Limited Warranty document. If you experience issues during the warranty period due to defects in materials or workmanship, you can contact Lenovo to receive warranty service, which is available through one of the following service types.

- Customer Replaceable Unit (CRU) Service
- On-site Service
- Courier or Depot Service
- Customer Carry-in Service
- Mail-in Service
- Customer Two-Way Mail-in Service

Note:

Not all service types are available for every PC model and availability varies by geographic location.

Customer Replaceable Unit Service

Customer Replaceable Unit Service is a type of warranty service offered by Lenovo. One or more components of a Lenovo PC may be designated by Lenovo as Customer Replaceable Units (CRUs) based on their ease of replacement. During the warranty period, if a part designated by Lenovo as a Customer Replaceable Unit becomes defective, and if this service is available for your model and geographic location, the warranty service may be performed using this service type.

If you intend to install a CRU, Lenovo will ship the CRU to you. You might be required to return the defective part that is replaced by the CRU. When return is required: (1) return instructions, a prepaid shipping label, and a container will be included with the replacement CRU; and (2) you might be charged for the replacement CRU if Lenovo does not receive the defective CRU within thirty (30) days of your receipt of the replacement CRU. For full details, see the Lenovo Limited Warranty document.

A Lenovo computer may contain the following types of CRUs:

CRU type	Description
Self-service CRU	Parts that can be installed or replaced easily by customer themselves or by trained service technicians at an additional cost.

CRU type	Description
Optional-service CRU	Parts that can be installed or replaced by customers with a greater skill level. Trained service technicians can also provide service to install or replace the parts under the type of warranty designated for the customer's machine.

CRUs for your product model

The table below lists the CRUs and CRU types that are defined for your product model.

Note:

Laws and regulations in certain countries or regions are enacted to protect customers' rights to independently service a product both during and after the warranty period. The designation of CRUs for your product model is intended solely for performing warranty service and does not affect customers' statutory rights. Parts not classified as CRUs are not eligible for CRU service but may still be replaceable by customers in accordance with applicable laws and regulations.

Part	Self-service CRU	Optional-service CRU
Power cord*	X	
ac power adapter*	X	

* for selected models

Note:

- Some models come with a wall-mounted ac power adapter and do not include a power cord.
- CRU replacement instruction is provided in one or more of the following publications and are available from Lenovo at any time upon your request.

  the product *User Guide*
  the printed publications that came with the product
- Replacement of any parts not listed above, including the built-in rechargeable battery, should be done by a qualified repair technician or by ensuring that you carefully follow all instructions provided by Lenovo. You can also find Lenovo-authorized repair facilities by going to https://support.lenovo.com/partnerlocation for more information.

Lenovo Support Website

The Lenovo Support Website offers tools and resources that allow you to check your warranty status, purchase parts and services, and troubleshoot issues independently. It also provides links to access additional help and support from Lenovo.

To access tools and resources relevant to your PC product, select **PC** from the product categories on the support homepage. Then, navigate to your product model's support page by entering the product name, choosing from a list of models, or allowing the website to automatically detect your product.

Lenovo Support Community

The Lenovo Support Community is an online forum organized into a series of subcommunities dedicated to sub-brands and specific product categories. It enables customers to share knowledge and discuss issues they may be experiencing. Should you encounter an issue with your product, you can search for a solution or post a question in the Community. Using an AI translation solution, Lenovo Community content can be created and viewed in twenty-one different languages, with the number potentially increasing.

The Community homepage offers intuitive navigation. You can select the product group, then narrow down to the subcategory and product name that matches your device. Viewing and searching content does not require an account. A one-time guest post is possible without registration; however, creating a Community account with your Lenovo ID provides full access and a better experience. Before posting, we recommend reviewing the Community Guidelines, which explain how to search, post, and maintain respectful interactions.

Note:

Please note that while Lenovo representatives may participate in discussions by responding to questions, the Community is primarily a peer to peer Community and not an official support channel. Most solutions are provided by users from around the world. As products and services vary across countries and regions, we advise that customers approach solutions shared on the forum with caution, carefully evaluating and validating them for their product and symptoms.

Support from the operating system manufacturer

Practically speaking, you cannot use a PC without its operating system. The operating system's manufacturer provides the official and usually the most comprehensive information about it.

Windows 11 is an operating system developed by Microsoft®. If you encounter any issues or would like to learn more about Windows 11, you can visit the official Microsoft support website for Windows.

Frequently asked questions

What should I do if my PC won’t start

Try any of the following solutions to resolve the issue.

- Disconnect all external devices, including the USB drive, portable hard disk, printer, docking station, and even the mouse and keyboard, because a malfunctioning external device may prevent the PC from starting up.
- Change a compliant power adapter to connect your PC to a working electrical outlet.
- Use the Windows startup repair tool if you can still see the Windows logo.

  1. Start your PC and wait for the Windows logo (or other logos) to appear.
  2. As soon as the logo appears, press and hold the power button until the PC shuts down.
  3. Turn your PC on again and repeat the previous step.
  4. Turn your PC on again. Windows should display the **Automatic Repair** screen.
  5. Select **Advanced options** > **Startup Repair**.
- Use a restore point recorded on your PC or use a recovery drive to restore Windows.

What should I do if my PC gets stuck in sleep or hibernate mode

Try any of the following solutions to resolve the issue.

- Reset your graphics driver by pressing Windows logo key + Ctrl + Shift + B.
- Restart your PC.

  1. Press and hold the power button until your PC shuts down completely.
  2. Wait about 15 seconds.
  3. Press the power button to start your PC.
- Identify the root cause of the problem after restarting your PC.
  - Allow your desired mouse to wake up your PC.

    1. Type **device manager** in the Windows search box and then press enter.
    2. Under **Mice and other pointing devices**, select your desired mouse.
    3. Under **Power Management**, check **Allow this device to wake the computer**.
    4. Select **OK**.
  - Disable fast startup because it may conflict with sleep or hibernate mode.

    1. Type **control panel** in the Windows search box and then press enter.
    2. Select **Hardware and Sound** > **Power Options** > **Choose what the power button does** > **Change settings that are currently unavailable**.
    3. Uncheck **Turn on fast startup (recommended)**.
    4. Select **Save changes**.
  - Disable wake timers because they may cause system instability or a black screen.

    1. Type **control panel** in the Windows search box and then press enter.
    2. Select **Hardware and Sound** > **Power Options** > **Change when the computer sleeps** > **Change advanced power settings**.
    3. Select **Sleep** > **Allow wake timers**.
    4. Next to **On battery** and **Plugged in**, disable wake timers.
    5. Select **Apply** > **OK**.

What should I do if my PC is plugged in but not charging

Try any of the following solutions to resolve the issue.

- Make sure the power adapter is plugged in securely to both the wall outlet and your PC.
- Make sure the power adapter and the connector are not damaged. Plug the power adapter into a different wall outlet.
- Ensure that you use the power adapter with proper wattage. Low-wattage power adapters might cause a battery charging problem.
- Restart your PC.
- Roll back the battery driver.

  1. Type **device manager** in the Windows search box and then press enter.
  2. Under **Batteries**, select **Microsoft AC Adapter** or **Microsoft ACPI-Compliant Control Method Battery**.
  3. Select the **Driver** tab and then select **Roll Back Driver**.
  4. Select **Yes** to roll back your battery driver and restart your PC.

> **Note:**
>
> If the **Roll Back Driver** option is unavailable, Windows does not have a previous driver to roll back to. In this scenario, you can try updating or uninstalling the battery driver in the **Driver** tab.

- Check the battery charging mode in Lenovo Vantage or Legion Space. In certain modes, charging will stop when the battery reaches a specific threshold to extend battery life.
- Update the firmware setup utility in Lenovo Vantage or Legion Space.

What should I do if my computer responds slowly

Try the following solutions to troubleshoot and fix the problem:

- Restart your computer.
- Delete temporary files and free up more drive space on your computer. For details, go to https://support.microsoft.com/disk_cleanup.
- Remove unnecessary programs from the startup programs:

  1. Open the **Start** menu, and then select **Settings** > **Apps** > **Startup**.
  2. In the **Startup** section, turn off the switch of programs that are not necessary to start automatically when you log in to Windows.
- Uninstall unnecessary or unused software.
- Scan for viruses and malware using the anti-virus software that is installed on your computer.
- Update the Windows operating system.

  Get the latest updates from the Windows Update. For details, go to https://support.microsoft.com/windows_update.
- Recover your Windows operating system.

  Depending on your specific situation, you can choose from different recovery options. For details, go to https://support.microsoft.com/windows_recovery.
- Repair missing or corrupted system files using the System File Checker tool. For details, go to https://support.microsoft.com/system_file_checker.

What should I do if the battery drains fast

Try any of the following solutions to resolve the issue.

- Avoid your PC in high heat or freezing cold because extreme temperatures affect battery performance.
- Disconnect all unnecessary external devices.
- Restrict background activities of high-power-consuming apps.

  1. Select **Settings** > **System** > **Power & battery** > **Battery usage**.
  2. Under **Battery usage per app**, you can check the high-power-consuming apps. Then limit the background activity of a desired app by selecting **More options** ••• > **Manage background activity**.
  3. Under **Background app permissions**, select **Power optimized (recommended)** or **Never** to manage the background activity for the app.
- Disable all unnecessary startup apps.

  1. Select **Settings** > **Apps** > **Startup**.
  2. Disable all unnecessary startup apps.
- Decrease the screen brightness using F5 (or fn + F5) or in **Settings** > **System** > **Display** > **Brightness**.

How to fix blue screen errors

1. Restart your PC.
2. Type **get help** in the Windows search box and then press enter.
3. In the search box of the Get Help app, type **troubleshoot BSOD error**.
4. Follow the guided walkthrough.

What should I do if my screen flickers

Try any of the following solutions to resolve the issue.

- Reset your graphics driver by pressing Windows logo key + Ctrl + Shift + B.
- Restart your PC.
- Check whether Task Manager flickers by pressing Ctrl + Alt + Delete or Ctrl + Shift + Esc.
  - If Task Manager also flickers, roll back your display driver.

    1. Type **device manager** in the Windows search box and then press enter.
    2. Under **Display adapters**, select a display adapter.
    3. Select the **Driver** tab and then select **Roll Back Driver**.
    4. Select **Yes** to roll back your display driver and restart your PC.

    > **Note:**
    >
    > If the **Roll Back Driver** option is unavailable, Windows does not have a previous driver to roll back to. In this scenario, you can try updating or uninstalling your display driver in the **Driver** tab.

  - If Task Manager does not flicker, update or uninstall incompatible apps that are probably causing the problem.

    1. Keep all apps updated from the Microsoft Store or the manufacturer's site.
    2. Check whether the screen flickers in a specific app. If yes, uninstall the app.

Why can’t I adjust the display brightness

If you are unable to adjust the display brightness, it may be due to adaptive brightness being enabled or an outdated display driver. You can try the following solutions to troubleshoot and fix the issue:

- Disable adaptive brightness:

  1. Go to **Start** > **Settings** > **System** > **Display**.
  2. Under **Brightness**, select the switch for **Change brightness automatically when lighting changes** to turn it off.
  3. Under **Brightness**, set the **Change brightness based on content** option to **Off**.
- Update the display driver:

  1. Type **Device Manager** in the Windows search box and then press enter.
  2. Select the arrow icon > next to **Display adapters** to expand the section.
  3. Right-click your display adapter, select **Update driver**, and follow the on-screen instructions.

What should I do if my camera can’t be launched or found

Try the following solutions to troubleshoot and fix the issue:

- Ensure that your camera is not disconnected or covered:
  - If you are using an external camera, ensure that you have connected it to a working USB connector on your computer.
  - If you are using an integrated camera, slide the camera shutter or camera switch to the on position.
- If you are using an integrated camera, it might be disabled. Go to **Start** menu, and select **Settings** > **Bluetooth & devices** > **Camera** to enable the integrated camera.
- The apps you are using might not have access to your camera. To authorize access to your camera:

1. Open the **Start** menu, and select **Settings** > **Privacy & security** > **Camera**.
2. Turn on **Camera access** switch and **Let apps access your camera** switch.

- Your antivirus software settings might block access to your camera. Go to your antivirus software settings and unblock the access.
- Your camera driver might be outdated. To update the camera driver:

1. Type **Device Manager** in the Windows search box and then press Enter.
2. Select **Device Manager** from the list of results. The Device Manager window opens.
3. Select arrow icon > next to **Camera** to expand the section.
4. Right-click the camera that you would like to update.
5. Select **Update driver** and follow the on-screen instructions.

- Run the automated camera troubleshooter in the Get Help app:

1. Open the **Start** menu, and select **Settings** > **Privacy & security** > **Camera**.
2. Scroll down to the bottom. Select **Get help** and follow the on-screen instructions.

What should I do if the audio does not work

If you encounter any audio problems, such as no audio or malfunctioning audio, try the following solutions to troubleshoot and fix the issue:

- Go to **Start** > **Settings** > **System** > **Sound** to verify that the sound output or input devices are selected correctly, and the volume is properly set.
- Run the audio troubleshooter:

1. Go to **Start** > **Settings** > **System** > **Sound**.
2. Under **Advanced**, find **Troubleshoot common sound problems**, select **Output devices** or **Input devices**, and follow the on-screen instructions to troubleshoot and fix the problem.

For more solutions to audio problems, go to https://support.lenovo.com/solutions/ht501860.

What should I do if my keyboard types wrong characters

- Ensure that the keyboard layout settings are correct. Take the following steps:

1. Go to **Settings** > **Time & language** > **Language & region**.
2. Under **Preferred languages**, select the three horizontal dots next to your primary language preference and select **Language options**.
3. Under **Installed keyboards**, check the keyboard layout and add the corresponding keyboard if you're not using the right one.

- Sometimes the keyboard types wrong characters because you may have enabled the feature of auto-correcting misspelled words. Take the following steps to disable this feature:

1. Go to **Settings** > **Time & language** > **Typing**.
2. Select the switch for **Autocorrect misspelled words** to turn it off.

- Ensure that the keyboard driver is in good status. Take the following steps:

1. Type **Device Manager** in the Windows search box and then press Enter.
2. Select **Device Manager** from the list of results. The Device Manager window opens.
3. Select arrow icon > next to **Keyboard** to expand the section.
4. Double-click the keyboard that is not working and check the status.
5. If it is not working properly, select **Driver** from the tabs on the top and select **Uninstall device** to uninstall the device.
6. Apply Windows Update to install the latest driver automatically.

I pressed the Copilot key on my keyboard, but neither Copilot in Windows nor Windows Search opened. What could be the potential cause

Your Windows operating system version is not up to date and does not include the necessary software components. Update your Windows operating system to version 23H2 or later using Windows Update and then try again.

> **Note:**
>
> The Version 23H2 update may not be immediately available for your PC. You may need to periodically open Windows Update and manually check for updates to install the 23H2 update when it becomes available for your PC.

What should I do if my touchpad or trackpad does not respond

If your touchpad does not respond, it might be because you have disabled the touchpad or your touchpad driver is out-of-date or malfunctioning. To solve the problem, you can try the following solutions.

- Enable the touchpad:

  1. Go to **Start** > **Settings** > **Bluetooth & devices** > **Touchpad**.
  2. Turn on the **Touchpad** toggle.

  > **Note:**
  >
  > Alternatively, you can also press the touchpad hotkey or the key combination fn + M to enable or disable the touchpad.

- Update the touchpad driver:

  1. Type **Device Manager** in the Windows search box and then press enter.
  2. Select the arrow icon > next to **Human Interface Devices** to expand the section.
  3. Right-click the touchpad, select **Update driver**, and follow the on-screen instructions.

- If a touchpad problem occurs after a recent driver update, follow the instructions below to roll back to the previously installed driver:

  1. Type **Device Manager** in the Windows search box and then press enter.
  2. Select the arrow icon > next to **Human Interface Devices** to expand the section.
  3. Right-click the touchpad, and select **Properties**.
  4. Under **Driver**, select **Roll Back Driver** and follow the on-screen instructions.

What should I do if my touchpad or trackpad responds slowly

If your touchpad is not responding as quickly or accurately as you expect, you can try the following solutions.

- Ensure the touchpad surface is clean, dry, and free from dirt or oils. Gently clean it with a soft, lint-free cloth.
- Disconnect any external mouse, keyboard or other USB devices. A faulty peripheral can sometimes cause cursor lag.
- Go to **Start** > **Settings** > **Bluetooth & devices** > **Touchpad** and then adjust the cursor speed.
- Update the touchpad driver:

  1. Type **Device Manager** in the Windows search box and then press enter.
  2. Select the arrow icon > next to **Human Interface Devices** to expand the section.
  3. Right-click **HID-compliant touch pad**, select **Update driver**, and follow the on-screen instructions.

What should I do if I cannot connect to the network

If you're unable to access email, browse the web, or stream music, it's likely you're not connected to your network and can't access the internet. To solve the problem, you can try the following solutions.

- Check your network connection status:

  1. Select the quick setting area on the right side of the side bar.
  2. Make sure that Wi-Fi is turned on.
  3. Check if your network name shows **Connected** below it. If it displays a status other than **Connected**, select a Wi-Fi network you recognize from the list of available networks. Then, click on the network and attempt to connect
- Check Airplane mode:

  1. Select **Start** > **Settings** > **Network & Internet** > **Airplane mode**.
  2. Ensure Airplane mode is turned off.
- Run automated diagnostics process:

  1. Right-click on the network icon on the right side of the task bar
  2. Select **Diagnose network problems** and then follow the on-screen instructions.
- Forget and reconnect to the Wi-Fi network:

  1. Select **Start** > **Settings** > **Network & Internet** > **Wi-Fi** > **Manage known networks**.
  2. Select your Wi-Fi network and then select **Forget**
  3. Reconnect to the network by selecting it and entering the password.
- Restart your modem and wireless router.

What should I do if I cannot connect to Bluetooth

If you cannot connect to Bluetooth, try the following solutions one by one.

- Ensure Bluetooth is supported and enabled on both your computer and your Bluetooth device. To turn on Bluetooth on your computer, take the following steps:

  1. Select the quick settings area on the right side of the taskbar.
  2. In the Bluetooth quick setting, ensure that Bluetooth is turned on. If not, select the Bluetooth icon to turn it on.
- Restart your Bluetooth device.
- Ensure that your Bluetooth device is charged or has enough power.
- Ensure that your Bluetooth device is placed within the required Bluetooth connection distance range of your computer.
- Ensure that airplane mode is turned off on your computer. Take the following steps:

  1. Select the quick settings area on the right side of the taskbar.
  2. In the Airplane mode quick setting, ensure that Airplane mode is turned off. If not, select the Airplane mode icon to turn it off.
- Ensure that your Bluetooth device is not too close to other USB devices that are connected to your computer. Unshielded USB devices might interfere with Bluetooth connections.
- Remove your Bluetooth device, and then add it again:

  1. Select **Start** > **Settings** > **Bluetooth & devices** > **Devices**.
  2. Select **More options** of the Bluetooth device you are having the problem with.
  3. Select **Remove device** to remove the Bluetooth device.

4. Select the quick settings area on the right side of the taskbar.

> **Note:**
>
> Ensure that the Bluetooth on both your computer and the Bluetooth device is turned on. Ensure that the device is discoverable.

5. Select **Manage Bluetooth devices** (>) on the Bluetooth quick setting to expand the section.
6. Select the device when it is displayed on the **New devices** list, and then follow the on-screen instructions.

- Run the Bluetooth troubleshooter:

1. Select **Start** > **Settings** > **System** > **Troubleshoot** > **Other troubleshooters**.
2. Locate the Bluetooth section, select **Run** and then follow the on-screen instructions.

- Uninstall the driver of the Bluetooth adapter. Windows will automatically install the latest driver.

1. Type **Device Manager** in the Windows search box.
2. Select **Device Manager** from the list of results. The Device Manager window opens.
3. Select the arrow icon > next to **Bluetooth** to expand the section.
4. Right-click the Bluetooth device you are having problem with, and then select **Uninstall device**.
5. Confirm that you want to uninstall this device from your system in the Uninstall Device window, and then select **Uninstall**.
6. After the driver is uninstalled, restart your computer. Windows will automatically install the latest driver.
7. If Windows does not reinstall the driver automatically, open device manager and select **Scan for hardware changes** on the tool bar (the magnifying glass icon).

What parts of my PC may contain personal data, and how can I erase that data before selling, donating, or recycling the device?

Personal data may be stored in multiple locations on a Lenovo PC, depending on the product design and configuration. Lenovo provides software tools and guidance for securely erasing user data from all potential storage locations within a Lenovo PC. Before selling, donating, or recycling your device, review the technical article on Lenovo Support website and follow the instructions provided for your specific product category or model.

How to reset my Windows password

If you have forgotten the password for your Windows account, you can try the following solutions.

- If you sign in to Windows with an email address, you have a Microsoft Account. You can reset your password online:

1. Go to the Microsoft password reset page from any other device.
2. Enter your Microsoft email address and follow the on-screen instructions.
3. You will be asked to verify your identity using a security code sent to your alternate email address or phone number.
4. Once reset, use your new password to sign in to your laptop.

> **Note:**
>
> An internet connection is required on your laptop for this to work.

- If you sign in with a username that does not use an email, you have a local account. Do the following to reset your password:

1. Use a password reset hint:

On the Windows sign-in screen, select **Sign-in options** and then enter your password. If you see a **Password hint** displayed below the password field, it may help you remember your password.

> **Note:**
>
> This feature is only available if you set up the hint in advance. You can see the option to set up a password hint when you create a local account password.

2. Use a previously created password reset disk:

   If you have created a password reset disk, you can connect it to a USB-compatible connector on your computer and then follow the on-screen instructions to reset your password.

How do I partition my storage drive

Refer to https://support.lenovo.com/solutions/ht503851.

What should I do if my computer stops responding

Press and hold the power button until the computer turns off. Then restart the computer.

What should I do if I spill liquid on the computer

1. Carefully unplug the ac power adapter and turn off the computer immediately. The more quickly you stop the current from passing through the computer the more likely you will reduce damage from short circuits.

   > **Attention:**
   >
   > Although you might lose some data or work by turning off the computer immediately, leaving the computer on might make your computer unusable.

2. Wait until you are certain that all the liquid is dry before turning on your computer.

   > **CAUTION:**
   >
   > **Do not try to drain out the liquid by turning over the computer. If your computer has keyboard drainage holes on the bottom, the liquid will be drained out through the holes.**

Where can I get the latest device drivers and UEFI/BIOS

- Lenovo Vantage or Lenovo PC Manager
- Lenovo Support Web site at https://support.lenovo.com.

Call Lenovo

If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

Before you contact Lenovo

Record product information and problem details before you contact Lenovo.

Product information	Problem symptoms and details
• Product name • Machine type and serial number	• What is the problem? Is it continuous or intermittent? • Any error message or error code? • What operating system are you using? Which version? • Which software applications were running at the time of the problem? • Can the problem be reproduced? If so, how?

Note:

The product name and serial number can usually be found on the bottom of the computer, either printed on a label or etched on the cover.

Lenovo Customer Support Center

During the warranty period, you can call Lenovo Customer Support Center for help.

Telephone numbers

For a list of the Lenovo Support phone numbers for your country or region, go to https://pcsupport.lenovo.com/supportphonelist.

Note:

Phone numbers are subject to change without notice. If the number for your country or region is not provided, contact your Lenovo reseller or Lenovo marketing representative.

Services available during the warranty period

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

Services not covered

- Replacement or use of parts not manufactured for or by Lenovo or non-warranted parts
- Identification of software problem sources
- Configuration of UEFI/BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of programs

For the terms and conditions of the Lenovo Limited Warranty that apply to your Lenovo hardware product, see “Warranty information” in the *Safety and Warranty Guide* that comes with your computer.

Purchase additional services

During and after the warranty period, you can purchase additional services from Lenovo at https://pcsupport.lenovo.com/warrantyupgrade.

Service availability and service name might vary by country or region.

Appendix A Important notice for Quebec consumers

In regard to section 79.18 of Quebec's Regulation respecting the application of the Consumer Protection Act, Lenovo in no way guarantees the availability of (a) replacement parts; (b) repair services; and (c) information necessary to maintain or repair the goods. For up-to-date information on the technical support and parts available for your purchase, please consult **https://support.lenovo.com/ca/en**.

Appendix B Notices and trademarks

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