

User Guide

Lenovo ThinkBook



Lenovo ThinkBook 16p Gen 6

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*

First Edition (May 2025)

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Contents

About this guide iii

Chapter 1. Meet your computer 1

Top	1
Pogo pins connector	1
Charging light	1
Antennas	2
Front	3
Ambient light sensor	3
Microphones	4
Infrared LED	4
Camera shutter	4
Camera	4
Camera light	4
Screen	4
Base	5
Power light	5
Power button	6
Keyboard	6
Touchpad	6
Speakers	7
Left	8
Security lock slot	8
USB Standard-A connector	8
Multi-purpose USB Type-C connector	9
Combo audio jack	9
Right	10
SD card slot	10
State light	10
USB Standard-A connector	11
Rear	12
Air vents (outlet)	12
HDMI connector	12
Power connector	12
Bottom	13
Novo button hole	13
Speakers	13
Air vents (intake)	13
Features and specifications	14
Statement on USB transfer rate	17
Operating environment	17

Chapter 2. Get started with your computer 19

Your PC and its operating system	19
Initial setup of the Windows operating system	19

Set up facial recognition	19
Windows recovery options	19
Reset Windows	20
Create a recovery drive	20
Restore Windows using a recovery drive	20
Windows Update	21
Use power efficiently	21
Shut down your PC	21
Put your PC into sleep mode	21
Adjust timeout settings for saving power	21
Connect to a network	22
Establish a wired connection	22
Connect to a Wi-Fi network	23
Unique Lenovo apps	23
Smart Connect	23
Lenovo Vantage	23
Lenovo Smart Meeting	23
Lenovo AI Now	26
The Novo Button menu	26
Open the Novo Button menu	26
Interact with your computer	26
Hotkeys	26
The Copilot key	28
Dual-function keys without printed icons	28
Numeric keypad	29
Touchpad gestures	29
Connect to an external display	29
Protect your privacy using the camera shutter	30
Enroll your fingerprints	31
Turn on night light	31
Adjust color temperature	31

Chapter 3. Explore your computer . . . 33

Intelligent features	33
Eye Care Mode	33
Super Resolution (for selected models)	33
Smart Noise Cancelling	33
Manage power	34
Rechargeable battery pack	34
Using a Power Delivery compliant USB Type-C charger with the computer	35
Set power button behavior	36
A power plan	36
System operation modes	37
Adjustable display refresh rate (for selected models)	37

Secure data erasure	37
Data erasure tools available on your PC	38
Use the Windows reset feature to erase user data	38
Use Lenovo Secure Wipe to erase the built-in storage device	39
Change settings in UEFI/BIOS setup utility	40
What is UEFI/BIOS setup utility?	40
Open the UEFI/BIOS setup utility	40
Select boot devices	40
Enable or disable F1-F12 as primary function	40
Enable or disable always-on	40
Set passwords in UEFI/BIOS setup utility	41
Password types	41
Set supervisor password	41
Change or remove supervisor password	41
Set user password	42
Enable power-on password	42
Set hard disk password	42
Change or remove hard disk password	43
Set strong password	43
Chapter 4. Help and support	45
Frequently asked questions	45
How do I partition my storage drive?	45
What should I do if my computer stops responding?	45
What should I do if I spill liquid on the computer?	45
Where can I get the latest device drivers and UEFI/BIOS?	45
Why does my screen brightness change constantly?	45
Why does my computer start automatically when I open the lid?	45

I pressed the Copilot key on my keyboard, but neither Copilot in Windows nor Windows Search opened. What could be the potential cause?	46
Self-help resources	46
What is a CRU?	47
CRUs for your product model	47
Call Lenovo	48
Before you contact Lenovo	48
Lenovo Customer Support Center	48
Purchase additional services	49

Chapter 5. PC and accessibility 51

Accessibility features of the PC hardware	51
USB connectors for connecting assistive technology devices	51
Keyboard accessibility	51
Biometric devices	52
Accessibility features of Windows 11	52
Configuring accessibility features in the Settings app	53
Narrator	53
Adjusting text sizes, applying a high-contrast theme, and using Magnifier	53
Sticky Keys	54
Accessible user documentation	54
Accessibility features of user documentation	54
Testing documentation accessibility	55

Appendix A. Accessories 57

Appendix B. Notices and trademarks 63

About this guide

- This guide applies to Lenovo product models listed below. Illustrations in this guide may look slightly different from your product model.

Model name	Machine type (MT)
ThinkBook 16p G6 IAX	21R0
ThinkBook 16p G6 IAX D1	
ThinkBook 16p G6 ADR	21U0

- For further compliance information, refer to the *Generic Safety and Compliance Notices* at https://pcsupport.lenovo.com/docs/generic_notices.
- This guide may contain information about accessories, features, and software that are not available on all models.
- This guide contains instructions that are based on the Windows® operating system. These instructions are not applicable if you install and use other operating systems.
- Microsoft® makes periodic feature changes to the Windows operating system through Windows Update. As a result, the operating system related instructions may become outdated. Refer to Microsoft resources for the latest information.
- The content of the guide is subject to change without notice. To obtain the latest version, go to <https://support.lenovo.com>.

Chapter 1. Meet your computer

Top



No.	Description
1	Pogo pins connector
2	Charging light
3	Antennas

Pogo pins connector

This connector consists of a magnetic strip and a set of metal contacts for magnetically attaching Lenovo Magic Bay extension modules with a set of matching pogo pins.

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 1. Charging light statuses and descriptions

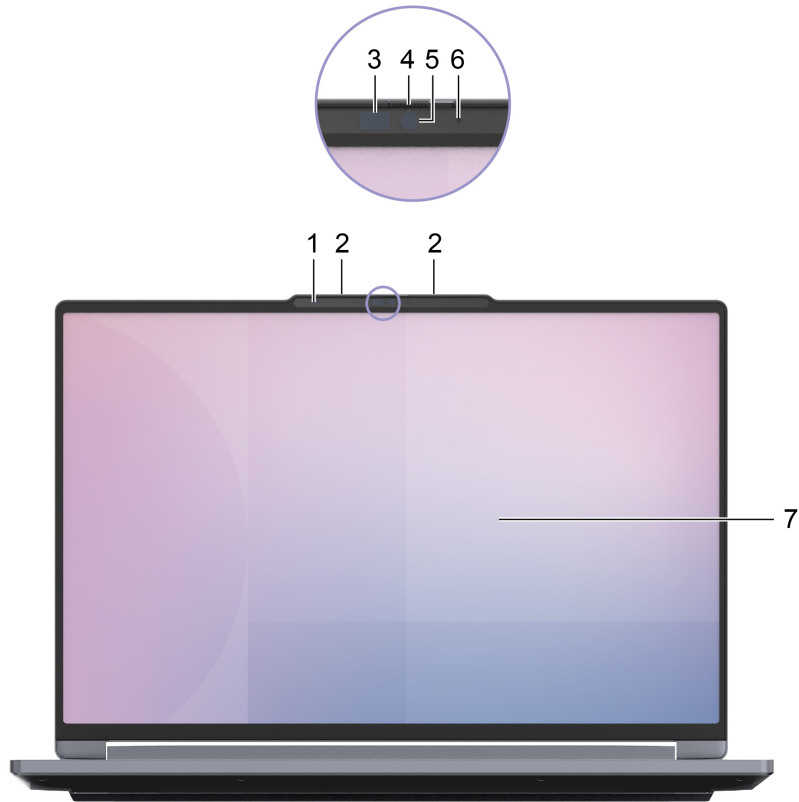
Light status	Plugged in?	Battery charge level
Off	No	/
On, amber	Yes	1%–90%
On, white	Yes	91%–100%

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.

Front



No.	Description
1	Ambient light sensor*
2	Microphones
3	Infrared LED*
4	Camera shutter
5	Camera
6	Camera light
7	Screen

* for selected models

Ambient light sensor

The ambient light sensor detects and measures the intensity of light in the user's environment. The data collected by this sensor can be used to enable adaptive brightness for the screen backlight and the keyboard backlight.

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.

Infrared LED

The infrared LED generates and emits near-infrared waves that are received and used by a camera (or a dedicated infrared camera) for facial recognition.

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 recording and video conferencing.

This camera also receives near-infrared waves emitted by an infrared LED and reflected by a human face, so it can also be used for facial recognition.

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.

Related tasks

“Turn on night light” on page 31

“Adjust color temperature” on page 31

Base



No.	Description
1	Power light
2	Power button (with fingerprint sensor*)
3	Keyboard
4	Touchpad
5	Speakers

* for selected models

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 3. 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	/
Off	Powered off or in hibernation mode	/

If the PC's power button includes an embedded fingerprint sensor, the power light turns solid green to prompt you to enroll or scan your fingerprint.

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.

Fingerprint sensor

The fingerprint sensor scans your finger to unlock your PC or verify your identity.

Note: You need to enroll one or more fingerprints before using them for identity verification. On a Windows PC, go to **Settings** → **Accounts** → **Sign-in options** to enroll your fingerprints.

Keyboard

The keyboard is the PC's built-in input device for typing characters. It also includes keys that can make you more productive when interacting with the PC, apps, and the Windows operating system.

Table 4. Productivity keys

Key	Location on the keyboard	Function
Function keys (F1 through F12)	In the top row	Executing predefined commands or functions for selected apps
Hotkeys	In the top row	<ul style="list-style-type: none">• Changing some of the PC's frequently used settings• Opening an app or a Windows gadget
fn key	In the lower-left corner	<ul style="list-style-type: none">• Toggling the functions of dual-function keys• Used with several letter keys to change some of the PC's frequently used settings
Windows key	In the lower-left corner	Used with certain keys to change some frequently used Windows settings

Hotkeys share keys with function keys. To toggle the functions for these keys, hold down the fn key or turn on the fn lock switch.

Note: Keyboard layout varies by language and geographical location. The keyboard on your PC may look slightly different from the product illustrations of this publication.

Related topics

“Hotkeys” on page 26

“Dual-function keys without printed icons” on page 28

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.

Speakers

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

Left



No.	Description
1	Security lock slot
2	USB Standard-A connector (always-on connector)
3	Multi-purpose USB Type-C® connectors. <ul style="list-style-type: none">• AMD platform: Supports USB 3.2 Gen 2• Intel platform: Supports Thunderbolt™ 4 (⚡)
4	Combo audio jack

Security lock slot

The security lock slot is used to attach a compatible cable lock. The cable lock typically includes a loop at one end and can be used to secure the PC to a stationary object, preventing theft when the PC is left unattended for a short period of time in cafes, shops, libraries, and other public places.

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.

Always-on connector

A USB connector with a battery icon (🔋) supports the always-on function. The PC can supply power to a USB device connected to this type of connector even when the PC is powered off, in sleep mode, or in hibernation mode.

The always-on function can be turned on and off in:

- The PC's firmware setup utility, or
- Lenovo Vantage or Lenovo PC Manager

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 necessary) according to the connection capabilities of the display device.

- Thunderbolt-enabled docks or devices*

* for selected models

Related topics

“Using a Power Delivery compliant USB Type-C charger with the computer” on page 35

Combo audio jack

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

Right



No.	Description
1	SD card slot
2	State light
3	USB Standard-A connectors

SD card slot

The SD card slot is used to insert an SD, SDHC, or SDXC memory card to transfer data between the memory card and your PC.

State light

The state 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, the color of the state light helps you determine whether the battery is running low.

Note: The status of the state light is synchronized with that of the power light. The state light is usually located on the right or left side of the PC and is visible when the LCD lid is closed.

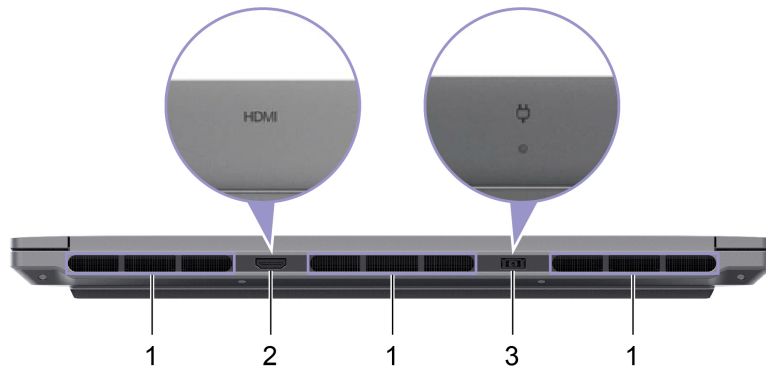
Table 5. State light status and description

Light status	Power state	Battery charge level
White (solid on)	Powered on	21%–100%
Amber (solid on)	Powered on	1%–20%
White (blinking slowly)	In sleep mode	/
Off	Powered off or in hibernation 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.

Rear



No.	Description
1	Air vents (outlet)
2	HDMI™ connector
3	Power connector

Air vents (outlet)

The air vents allow hot air to be discharged out of the PC.

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.

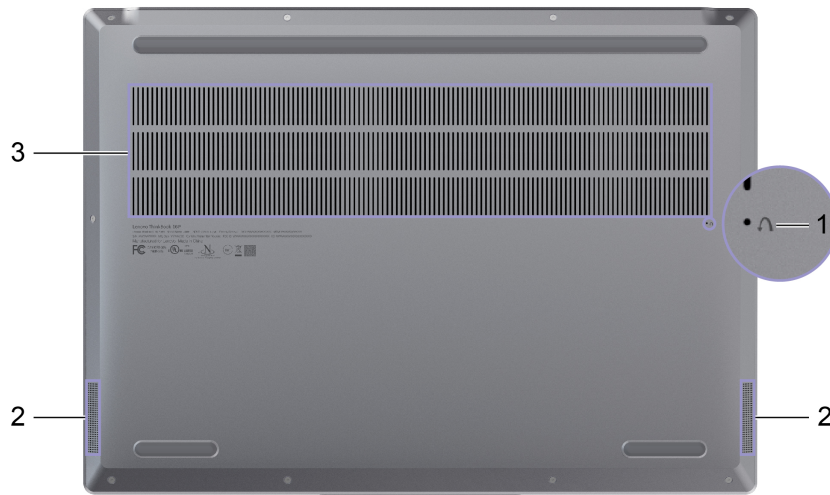
HDMI connector

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

Power connector

Use this connector and the included ac power adapter to connect your PC to an electrical outlet.

Bottom



No.	Description
1	Novo button hole
2	Speakers
3	Air vents (intake)

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.

Speakers

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

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.

Features and specifications

Dimensions

Item	Value or specification
Width	354.6 mm (13.96 inches)
Depth	256.2 mm (10.09 inches)
Thickness	<ul style="list-style-type: none">• Intel platform: 17.92 mm (0.71 inches)• AMD platform: 19.34 mm (0.76 inches)

ac power adapter

Item	Value or specification
Input	100 V ac-240 V ac, 50 Hz-60 Hz
Output	20 V dc, 15 A
Power	300 W

Battery pack

Item	Value or specification
Capacity	85 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).
Number of cells	4

Memory

Item	Value or specification
Type	Double data rate 5 small outline dual in-line memory module (DDR5 SODIMM)
Number of physical slots	2

Mass storage device

Item	Value or specification
Type	Solid-state drive
Form factor	<ul style="list-style-type: none">• M.2 (2242)• M.2 (2280)*
Interface	<ul style="list-style-type: none">• PCIe 5.0 × 4 (with NVMe)*• PCIe 4.0 × 4 (with NVMe)

Screen

Item	Value or specification
Size	406.4 mm (16.0 inches)
Display resolution	<ul style="list-style-type: none">• Intel platform:<ul style="list-style-type: none">– 3200 × 2000 pixels– 2560 × 1600 pixels• AMD platform: 2560 × 1600 pixels
Supported refresh rate	<ul style="list-style-type: none">• 165 Hz• 240 Hz

Keyboard

Item	Value or specification
Backlight color	White
Shortcut keys	<ul style="list-style-type: none">• Function keys• Hotkeys
Modifier keys	<ul style="list-style-type: none">• alt key• ctrl key• shift key• Windows key• fn key
Special keys or key group	Numeric keypad

Connectors and slots

Item	Value or specification
Combo audio jack	<ul style="list-style-type: none">• Diameter: 3.5 mm• Supported plugs:<ul style="list-style-type: none">– 3-pole, TRS– 4-pole, TRRS (CTIA and OMTP)
HDMI connector	<ul style="list-style-type: none">• Supported signaling protocols:<ul style="list-style-type: none">– Fixed rate link (FRL)– Transition minimized differential signaling (TMDS)• Maximum output resolution: 7680 × 4320 @ 60 Hz
Memory card slot	Supported card types: <ul style="list-style-type: none">• SD card• SDHC card• SDXC card
Security lock slot	Kensington Nano Security Slot™

Item	Value or specification
Power connector	Input: <ul style="list-style-type: none"> • Direct current • 20 V
USB Standard-A connector	<ul style="list-style-type: none"> • Quantity: 3 • Maximum power output: <ul style="list-style-type: none"> – 5 V, 0.9 A – 5 V, 2 A (for always-on connector) • Supported signaling protocols: <ul style="list-style-type: none"> – USB 3.2 480 Mbps – SuperSpeed USB 5 Gbps – SuperSpeed USB 10 Gbps (for always-on connector)
Multi-purpose USB Type-C connector	<ul style="list-style-type: none"> • Quantity: 2 • Maximum power output: <ul style="list-style-type: none"> – 5 V, 3 A – 20 V, 7 A • Maximum power input: 140 W • Supported signaling protocols: <ul style="list-style-type: none"> – USB 2.0 480 Mbps – SuperSpeed USB 5 Gbps – SuperSpeed USB 10 Gbps – Thunderbolt 4 41.25 Gbps – DisplayPort™ Alt Mode (DisplayPort 2.1 compliant) <ul style="list-style-type: none"> – Maximum output resolution: 7680 × 4320 @ 60 Hz – USB Power Delivery <p>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.</p>

Security

Item	Value or specification
Fingerprint sensor	Location: Power button
UEFI/BIOS passwords	<ul style="list-style-type: none"> • Supervisor password • User password • Master hard disk password • User hard disk password

Network

Item	Value or specification
Wi-Fi	Wi-Fi 7
Bluetooth	Bluetooth 5.4

* for selected models

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
USB 3.2 Gen 2	10

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)

Chapter 2. Get started with your computer

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.

Set up facial recognition

Apart from text-based passwords, Windows 11 supports additional user authentication methods for PCs with the required hardware devices. For PCs equipped with a built-in infrared LED and an infrared camera, you can enable facial recognition to sign into Windows using your face.

Step 1. Select **Start** → **Settings** → **Accounts** → **Sign-in options** → **Facial recognition**.

Step 2. Select **Set up** → **Get started** and follow on-screen instructions to enroll your face.

Note: If you are using a local account to sign into Windows, you must set a password for the account before you can enable facial recognition.

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 6. Windows recovery options

Situations	Recovery options
Windows runs much slower after you install an app.	Restore Windows from a system restore point.
Windows hasn't been functioning properly for some time.	Reset your PC while keeping your personal files.

Table 6. Windows recovery options (continued)

Situations	Recovery options
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.

- Step 1. Select **Settings → System → Recovery**.
- Step 2. Under **Recovery options**, select **Reset PC**.
When prompted, choose between **Keep my files** and **Remove everything**.
- Step 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.

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

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

Related tasks

“Open the Novo Button menu” on page 26

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**.

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.

- Step 1. Select **Start → Power**.
- Step 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.

- Step 1. Select **Start → Power**.
- Step 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.

- Step 1. Select **Start → Settings → System → Power & battery → Screen, sleep, & hibernation timeouts**.
- Step 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 7. 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

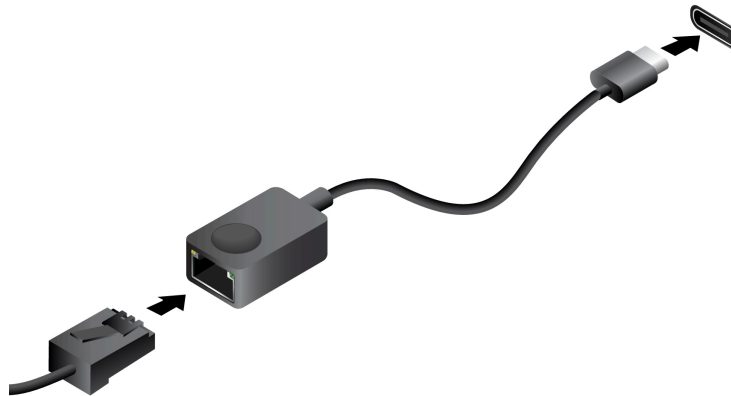
Note: To wake the PC from sleep mode, press the power button or any key on the keyboard.

Connect to a network

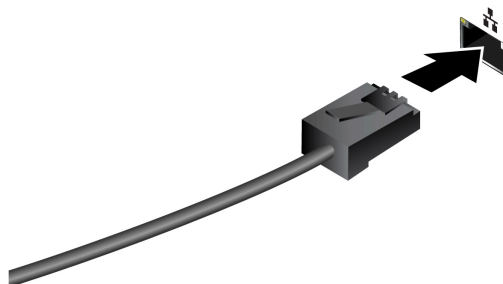
Establish a wired connection

To establish a wired connection, you must have a USB Type—C to Ethernet adapter. It is recommended that you purchase the adapter from Lenovo at <https://www.lenovo.com/accessories>.

- Step 1. Plug an Ethernet cable into the Ethernet connector of the adapter.
- Step 2. Plug the other end of the adapter to the USB Type-C connector on your computer.
- Step 3. Plug the other end of the Ethernet cable into a network wall jack or a router.




Note: If your computer includes an Ethernet connector, you can plug the Ethernet cable into the Ethernet connector directly. The USB Type-C to Ethernet adapter is not necessary.



Connect to a Wi-Fi network

Ensure that you have a secure Wi-Fi network account and the required credentials.


- Step 1. Select the network icon  on the bottom right of your display.
- Step 2. Select an available network, and then select **Connect**. If you want to be automatically connected to this Wi-Fi network the next time you start your computer, select **Connect automatically** before selecting **Connect**.
- Step 3. Type your credentials if necessary, and then follow the on-screen instructions to connect to the desired Wi-Fi network.

Unique Lenovo apps

Smart Connect

Smart Connect is an app that can easily pair your PC with your Motorola smartphone and Lenovo tablet. With Smart Connect, you can:

- Access mobile apps on your PC
- Quickly share content between connected devices
- Mirror your phone display or create a virtual phone screen on your PC
- Copy and paste across connected devices
- Use your phone or tablet camera as the PC webcam
- Control your phone or tablet using your PC keyboard and mouse
- Extend or mirror your PC display on the tablet

To open Smart Connect, you can type Smart Connect in the Windows search box and then select the matched result. Alternatively, you can also press the hotkey marked with  (F11) as a shortcut.

Note: Smart Connect makes periodic updates to keep improving your experience. Features may be added or modified after updates are installed.

Lenovo Vantage

Lenovo Vantage is a one-stop solution to help you update your computer, configure hardware settings, and access personalized support.

If your computer is pre-installed with Lenovo Vantage, type Vantage in the Windows search box to launch this app.

Notes:

- Available features may vary depending on your computer model.
- You can download the latest version of this app from Microsoft Store.

Lenovo Smart Meeting

Lenovo Smart Meeting is a video conferencing app with multiple features for enhancing your professional image, protecting your privacy, and reducing your computer's power consumption.

If you want your settings in this app to also take effect on other mainstream video conferencing apps, such as Microsoft Teams and Zoom, ensure that you select Lenovo Virtual Camera in the app.

Access the app

Type Lenovo Smart Meeting in the Windows search box and then press enter.

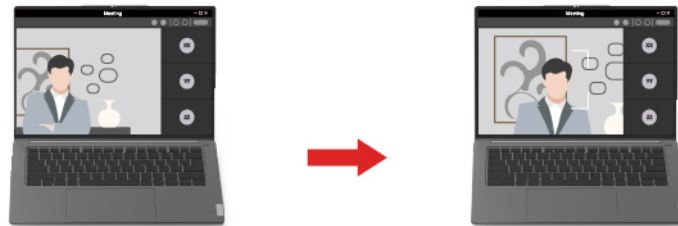
Explore key features

- **Smart appearance**

- **Video enhancer:** Adjust the brightness automatically for better image quality during the video call.



- **Face framing:** Keep your face centered automatically during the video call when you move around.



- **Customized background:** Blur or customize your background during the video call to protect your privacy.

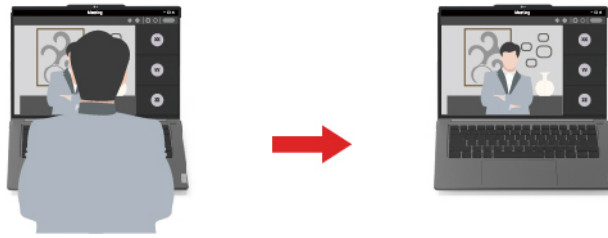


- **Dual Camera Fusion:** Show the image of any participant that is visible from the front or rear of the camera on the screen when collaborating with a Lenovo Magic Bay 4K Webcam.



Note: You can purchase the Lenovo Magic Bay 4K Webcam from Lenovo at <https://www.lenovo.com/accessories>.

- **Temporary Avatar:** Create and display a temporary portrait of you as if you were still in the video conference when you are temporarily away.



- **Intelligent sensing**

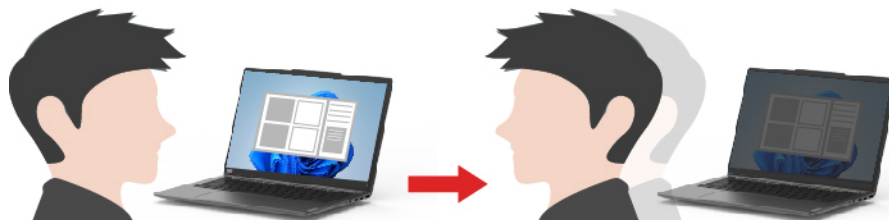
- **Presence detection:** Keep your computer awake when you are facing the screen and lock the computer screen automatically when you leave. You can customize the screen-off time from 10 to 60 seconds.



- **Privacy protection:** Blur your screen and display a warning message when a shoulder surfer is detected.



- **Adaptive dimming:** Track your face movements to recognize your focus of attention. When you are facing away, the display dims to conserve power. You can customize the brightness value and screen dimming timer.




Notes:


- Lenovo does not collect any personal data from this app.
- The available features vary depending on the computer model.
- Lenovo Smart Meeting makes periodic feature updates to keep improving your experience. The description described here might be different from that on your actual user interface.

Lenovo AI Now

Lenovo AI Now is your personal and private AI assistant. It enables you to boost your productivity by building your personal knowledge library, helps you with inspiration, writing and summarizing, and provides troubleshooting and quick settings for your PC.

To open Lenovo AI Now, type `Lenovo AI Now` in the Windows search box and select the matched result. Alternatively, you can also press the hotkey marked with  as a shortcut.

Notes:

- Lenovo AI Now is not available on all product models. For those models not pre-installed with this app, pressing the hotkey  will open a quick launch panel.
- Lenovo AI Now makes periodic updates to keep improving your experience. Features may be added or modified after updates are installed.

The Novo Button menu

The Novo Button menu can be displayed before the operating system starts. From the menu, you can choose to

- Open the UEFI/BIOS setup utility
- Open the boot device selection menu
- Open the Windows startup options screen

Note: From the Windows startup options screen, you can then choose to

- Start your computer using a recovery drive
- Reset your computer
- Open the advanced options screen

Open the Novo Button menu

For Lenovo computers with a Novo button, you can press the button to open the Novo Button menu.

Step 1. Turn off the computer.

Step 2. Open the LCD screen and press the Novo button.
















Note: Alternatively, turn off the computer. Press `fn` and the power button to open the Novo Button menu.

Interact with your computer

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 the touchpad.
	Opens an AI experience, an application launch panel, or a pre-installed PC management application.
	Opens the Snipping tool.
	Opens the Smart Connect app.
	Opens the Calculator app.
	Puts the computer to sleep.
	Adjusts the keyboard backlight.
	Opens the context menu of the current active app.

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.

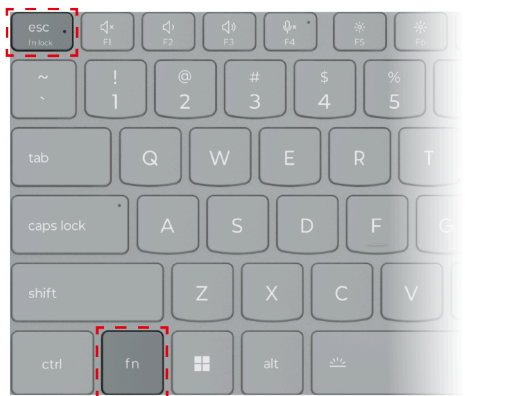


Figure 1. Locations of the fn lock key and the fn key

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.

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

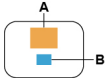



Figure 2. The layout of a dual-function key

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

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.

Related topics

“I pressed the Copilot key on my keyboard, but neither Copilot in Windows nor Windows Search opened. What could be the potential cause?” on page 46

Dual-function keys without printed icons

Some dual-function keys share keys with letter keys and numeric keys. Such keys do not have a dedicated printed icon. The following table lists the hidden functions of these keys.

Key combination	Hidden function
fn + M	Enables/Disables the touchpad.
fn + N	Shows device information.
fn + Q	Switches among different system operation modes.
fn + R*	Changes the display refresh rate.

* for selected models

Related topics

“System operation modes” on page 37

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 num lock 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 10. Multi-finger touchpad gestures

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

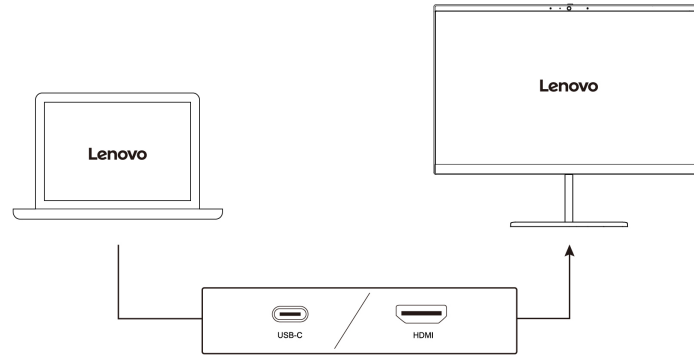
- Step 1. Select **Settings** → **Bluetooth & devices** → **Touchpad**.
- Step 2. Under **Three-finger gestures**, use the drop-down lists to modify the functions for the swipe or tap gestures.

Connect to an external display

Connect to a wired display

Connect your computer to the desired display with an appropriate cable.

- Step 1. Connect one end of the display cable to the HDMI connector or a multi-purpose USB Type-C connector on your computer.
- Step 2. Connect the other end of the cable to the display.



Connect to a wireless display

Ensure that:



- Both your computer and the display support Miracast® technology.
- The display is connected to the same Wi-Fi network as your computer and is discoverable.

- Step 1. Press Windows key + K.
The computer searches for wireless display devices and audio devices and lists the results.
- Step 2. Select the display you want to connect to, and then follow the on-screen instructions.

Change display settings

- Step 1. Right-click on a blank area on the desktop, and then select **Display settings**.
Your computer shows the **Display** window.
- Step 2. Select the display for which you want to change the settings.
- Step 3. Change the display settings as necessary.

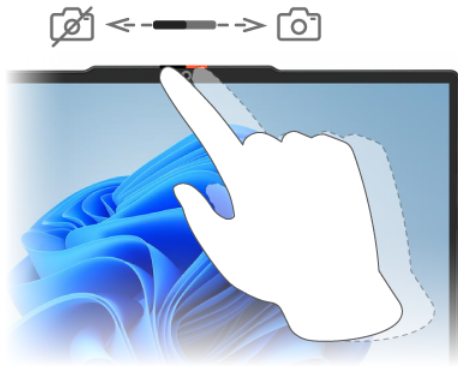
Set the display mode

- Step 1. Press  or fn + .
- Step 2. Select a display mode from the list.

Protect your privacy using the camera shutter

The camera shutter is a mechanical component that prevents any attempt from capturing your image, thus protecting your privacy. To cover the camera lens, slide the camera shutter to the left. When you want to use the camera, slide the camera shutter to the right.

If you slide the camera shutter to the left during a video call, people on the video call will not be able to see you. If you slide the camera shutter back to the right, they will be able to see you again.



Enroll your fingerprints

You can use the biometric fingerprint option to sign in to Windows quickly if your computer includes a fingerprint sensor. This sign-in option provides a reliable and secure way of identity verification.


- Step 1. Select **Start** → **Settings** → **Accounts** → **Sign-in options**.
- Step 2. Under **Ways to sign in**, select **Fingerprint recognition (Windows Hello™)** to set up sign-in with a fingerprint sensor.
- Step 3. Follow the on-screen instructions to enroll your fingerprints.


Notes:

- You need to set up a PIN code before you are allowed to use this sign-in option.
- It is recommended that you enroll multiple fingerprints in case of any injuries to your fingers.

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.

- Step 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 **Win** + **A**.
- Step 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.

- Step 1. Select **Start** → **Settings**.
- Step 2. Select **System** → **Display** → **Night light**.
- Step 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.

Chapter 3. Explore your computer

Intelligent features

Your computer may be pre-installed with one of Lenovo Vantage or Lenovo PC Manager but not both. Most features described here can be enabled or disabled in one of these apps. Other features may be enabled in a standalone app.

Notes:

- Software features are subject to change. Please refer to your actual product.
- You may need to complete online updates to the apps for the features to take effect.

Eye Care Mode

Eye Care Mode intelligently adjusts the color temperature of the screen and can reduce the chances of developing eye fatigue or eye strain.

Super Resolution (for selected models)

By utilizing the capabilities and potentials of Intel processors, Super Resolution helps you play videos with a higher resolution than the original. It works especially well in cases where the source video has poor resolution.

For most players, Super Resolution can be enabled or disabled in Lenovo Vantage or Lenovo PC Manager, but for some specific players, you might need to enable this feature manually.

Smart Noise Cancelling

Smart Noise Cancelling is a noise reduction feature available on some Lenovo product models. By filtering out input and output noises, Smart Noise Cancelling enhances your audio experience.



Function	Description	Remarks
Microphone noise cancelling	Voice Recognition: Your computer captures multiple voices in a way that reflects their original spatial positions.	<ul style="list-style-type: none">• This function takes effect only when built-in microphones/arrays or 3.5 mm jack wired microphones are used as the input media.• To disable this function, select Off.
	Only My Voice: This option requires you to record your voice so that your computer captures this voice only and tries to eliminate other voices. Note: To remove your voice record, select REMOVE MY VOICE .	

Function	Description	Remarks
	Normal: Your computer focuses on the voice of the person facing it and reduces ambient sounds.	
	Multiple Voices: Your computer captures multiple voices from an expanded range in front of the computer.	
Speaker noise cancelling	Your computer filters out other sounds to play only human voices.	These functions are not applicable to scenarios like listening to music and watching videos.
Meeting noise cancelling	When this function is selected, your computer uses special algorithms for noise reduction when you are using conferencing applications.	

Notes:

- Depending on its hardware, your computer may not support all the functions and options described above.
- You can view and customize this feature under **Device Settings** in Lenovo Vantage or Lenovo PC Manager.

Manage power

Use the information in this section to achieve the best balance between performance and power efficiency.

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:

You can check the battery temperature in Lenovo Vantage.

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%.

Rapid charge mode

If you want the battery to be charged faster than in normal mode, switch the battery charging to rapid charge mode. The following table lists the typical time needed for batteries in rapid charge mode to be charged to 80% and 100% respectively.

Table 11. Reference charge time for batteries in rapid charge mode

Mode	Time needed to charge from 0% to 80%	Time needed to charge from 0% to 100%
Rapid charge	Less than 1 hour	Less than 2 hours

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.

Overnight charge optimization

Some people follow a regular pattern when using their computers. They finish their workday with the computer at a low battery charge level. They plug in their computers at night and need the battery to be fully charged the next morning so they can unplug the computer and bring it to work. These activities happen at approximately the same time each day. If this sounds like you, consider enabling overnight charge optimization for the battery.

Overnight charge optimization affects battery charging during the night hours, the time when you're usually asleep. When it is enabled, the computer regularly adapts its charging behavior based on observation of when you plug in the computer at night and unplug it in the morning. During the nighttime, the battery is charged to a particular range and is kept within that range for an extended period, before being further charged to 100%. Overnight charge optimization ensures safe charging during the night and is beneficial to the long-term health of the battery.

Note: With overnight charge optimization enabled, if you break your routine one day by unplugging the computer much earlier than usual in the morning, you may find that the battery is not fully charged.

If the battery pack of your computer supports overnight charge optimization, it can be enabled in Lenovo Vantage or Lenovo PC Manager.

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.

Step 1. Unplug the computer and use it until the battery charge drops below 20%.

Step 2. Plug in the computer and charge the battery to 100%.

Using a Power Delivery compliant USB Type-C charger with the computer

The USB Type-C connectors on the left side of the computer conform to *USB Power Delivery Specification*. If you did not carry the included ac power adapter with your computer, you have the option of using a qualified USB Type-C charger (purchased separately) that is also Power Delivery compliant to charge the computer. Lenovo branded USB Type-C chargers with the following listed maximum ratings are tested to work with the computer. Chargers of other brands with the same ratings should also work but are not thoroughly tested.

- 20 V, 4.75 A
- 20 V, 5 A
- 20 V, 6.75 A

- 20 V, 7 A

The USB Type-C connectors on the left side are not designed as the primary power input connector. When the computer is operating, the power supplied by the USB Type-C charger may be insufficient. As a result, the computer may not operate at its full capacity and the battery charging may stop or is very slow. Use the included ac power adapter whenever possible.

CAUTION:

When purchasing third-party USB Type-C chargers for use with the computer, choose a product that is safety approved or certified. A disqualified charger may cause damage to your computer or pose an electrical hazard. In many countries and regions, manufacturers or importers of electric chargers can submit their products to a certification authority or approved and recognized testing laboratories. Such a product usually carries a mark if it was tested to pass relevant quality and safety standards. For some countries and regions, this certification process is even mandatory. If you live in mainland China, choose a charger with the “CCC” mark; for users in many European countries, choose one with the “CE” mark; for users in the United States and Canada, choose a Listed charger that carries a mark by one of the Nationally Recognized Testing Laboratories. (For example, the “UL Listed” mark). For people living in other countries and regions, consult a qualified electrical engineer for how to select a safety approved electric charger.

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.

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

A power plan

A power plan is a collection of power-saving settings made available by an operating system. With a power plan, you can set idle time-outs for different hardware components to enter a low-power state. The default power plan and some of its idle time-out settings are listed below for computer models pre-installed with Windows.

The listed settings are active when the computer is connected to an electrical outlet. If your computer includes a built-in battery pack, a different collection of time-out settings is set to take effect when the computer is operating on battery power.

- Default power plan: Balanced
- Turn off the display: after 5 minutes
- Put the computer to sleep: after 5 minutes

Note: To wake the computer from the sleep state, press the power button or any key on the keyboard.

Change or customize a power plan

This operation is applicable to computers with pre-installed Windows.

- Step 1. Type power plan in the Windows search box and then press enter.
- Step 2. Customize a power plan of your preference.

System operation modes

Lenovo has preset several modes in which your computer can operate. The maximum attainable performance, power consumption, and speed limit for the heat sink fan vary among the different operation modes. Consider the following conditions when you want to switch operation modes.

- The environment where you use your computer, and
- The tasks running on your computer

You can switch the operation mode in the pre-installed app Lenovo Vantage or Lenovo PC Manager. As a shortcut, you can also use the key combination **fn + Q**. Three modes are usually available for most Lenovo computers. The following table lists the operation modes and the recommended conditions for each mode.

Note: The operation modes listed in the table are descriptive and may not be the same as those displayed by the app.

Table 12. Operation modes and their recommended usage conditions

Operation mode	Recommended conditions
High Performance	<ul style="list-style-type: none">• Your computer is plugged into an electrical outlet.• You want the best performance, and• You don't care if the fan makes a little noise.
Auto (Balance)	You plan to frequently switch between different computer tasks over a period of time.
Power Saving (Quiet)	<ul style="list-style-type: none">• Your computer is operating on battery power, or• You want the computer to be as quiet as possible.

Note: In Auto (Balance) mode, the computer dynamically switches between High Performance mode and Power Saving (Quiet) mode depending on the tasks running on the computer.

Adjustable display refresh rate (for selected models)

Your eyes might not notice it but the content displayed on the computer screen refreshes constantly. Display refresh rate refers to the number of times per second the screen content refreshes itself and is measured in hertz (Hz).

A refresh rate of 60 Hz is adequate for most situations and is energy efficient. However, when viewing videos or playing video games, a higher refresh rate usually provides a smoother viewing experience.

The displays of some Lenovo computers support dual refresh rates. For such a computer, you can manually switch its display to work at either the higher or lower refresh rate. For Windows operation systems, the manual settings are usually found in **Settings → System → Display**. As a shortcut, you can also use the key combination **fn + R** to switch the display refresh rate.

Note: Not all displays support dual refresh rates. If you cannot find settings to change the display refresh rate, the refresh rate of the display might be fixed or cannot be manually changed.

Secure data erasure

It is advisable to reuse or recycle your PC when it is no longer needed. Options include selling, donating, or using a reputable recycling service. Properly reusing and recycling your PC can help minimize its environmental impact.

When reusing or recycling a PC, data security is a major concern due to the potential storage of personal and sensitive information. Before selling, donating, or recycling your Lenovo PC, it is essential to erase all personal data from its storage device to safeguard your privacy and prevent data breaches. Lenovo offers free data erasure tools on your PC, or you can choose third-party tools based on your specific needs.

Data erasure tools available on your PC

Two free data erasure tools are available on your PC. The reset function in Windows allows you to erase the storage device and reinstall the operating system simultaneously, eliminating the need for the next user to install a new operating system. However, the clean data option in Windows Reset does not adhere to widely recognized data erasure standards. If your organization mandates a specific data erasure standard, you may want to consider using Lenovo Secure Wipe.

Lenovo Secure Wipe is initiated within the firmware setup utility. It can erase both built-in and external storage devices and supports widely recognized data erasure standards. Unless you have specifically selected only data partitions for erasure, the boot and system partitions will be overwritten, rendering the device unbootable after the data erasure process. The new owner of this PC will need to install an operating system. The data erasure function provided by Lenovo Secure Wipe complies with the “clean” method of data sanitization as defined by *IEEE Standard for Sanitizing Storage*.

Table 13. Available data erasure options

Data erasure options	Where to start the utility	Provider	Reinstall Windows	Support data erasure standards	Erase external storage devices
Windows Reset	Windows Settings or the Windows recovery environment	Microsoft	Yes	No	No
Lenovo Secure Wipe	The Setup Utility of the PC's firmware	Lenovo	No	Yes	Yes

Use the Windows reset feature to erase user data

Before selling or donating a PC, you can use the reset feature in Windows to erase user data.

- Step 1. In Windows 11, select **Start → Settings → System → Recovery**.
- Step 2. Under Recovery options, select **Reset PC**.
- Step 3. On the Choose an option page, select **Remove everything**.
- Step 4. On the Additional settings page, select **Change settings**.
- Step 5. Click the toggle button for Clean data to activate it, select **Confirm**, and then select **Next**.

Note: If users do not activate the clean data option, personal files are only deleted and can be recovered using data recovery tools. Activating clean data enables the utility to perform data erasure on the storage device, significantly reducing the chances of data recovery by others.

- Step 6. On the Ready to reset this PC page, select **Reset**.

Important: Make sure to back up all personal files that you want to keep to an external storage device before selecting **Reset**. This is your last chance to cancel the reset process.

After selecting **Reset**, the utility will reinstall Windows and erase data on the storage device. This process may take several hours to complete. Ensure your PC is plugged in during this process.

Use Lenovo Secure Wipe to erase the built-in storage device

Supervisor password must be set for the firmware setup utility prior to using Lenovo Secure Wipe.

Some Lenovo PCs include a utility called Lenovo Secure Wipe. Before selling or donating a Lenovo PC, you can use this software utility to overwrite or block erase the PC's built-in storage device.

- Step 1. Disconnect all external storage devices from your PC.
- Step 2. Open the PC's firmware setup utility.
- Step 3. On the start page, select **Boot → Wipe Storage Devices** and press enter. Lenovo Secure Wipe will start.

Note: If supervisor password is not set, you must set it, save changes and exit the setup utility, and then repeat the above steps.

- Step 4. Make sure the storage device displayed is correct and select **Next**.
- Step 5. Choose options to erase the entire device or selected partitions of the device.
- Step 6. Choose a data erasure standards from the list of available standards according to your needs or your organization's requirements, and then select **Next**.
- Step 7. On the final confirmation page, select **Yes**.

Important: Make sure to back up all personal files that you want to keep to an external storage device before selecting **Yes**. This is your last chance to cancel the device erasure process.

After selecting **Yes**, the utility will either overwrite or perform a block erase on the built-in storage device using the data erasure standards you have selected. Unless you have only selected data partitions for erasure, the boot and system partitions will also be overwritten, rendering the device unbootable. The new owner of this PC will need to install a new operating system.

Note: This process may take several hours to complete and the time needed varies greatly based on the selected data erasure standards. Ensure your PC is plugged in during this process.

Data erasure standards supported by Lenovo Secure Wipe

Data erasure standards are established by military organizations, government agencies, and private institutions to ensure quality and consistency in data sanitization. These standards primarily differ in the number of overwrite or erase stages and the bit patterns used to overwrite or block erase the addressable storage space. The following table lists the data erasure standards supported by Lenovo Secure Wipe.

Table 14. Data erasure standards supported by Lenovo Secure Wipe

Standard	Number of overwrite stages	Verification
Single pass zeros	1	No
DoD 5220.22-M	3	Yes
US Navy and Airforce	3	Yes
CSE Canada ITSG-06	3	No
British HMG Infosec Standard 5	3	Yes
German VSITR	7	No
Russian GOST P50739-95 Level 1	1	No

Table 14. Data erasure standards supported by Lenovo Secure Wipe (continued)

Standard	Number of overwrite stages	Verification
Russian GOST P50739-95 Level 4	4	No
RCMP TSSIT OPS-II	7	Yes

Change settings in UEFI/BIOS setup utility

This section introduces what UEFI/BIOS is and the operations you can perform in its setup utility.

What is UEFI/BIOS setup utility?

UEFI/BIOS is the first program that runs when a computer starts. UEFI/BIOS initializes hardware components and loads the operating system and other programs. Your computer may include a setup program (setup utility) with which you can change certain UEFI/BIOS settings.

Open the UEFI/BIOS setup utility

- Step 1. Restart the computer.
- Step 2. When the Lenovo logo appears on the screen, press F1 repeatedly.

Select boot devices

Normally, the computer starts with a boot manager loaded from the secondary storage device of the computer. Occasionally, you may need to start the computer with a program or boot manager loaded from another device or a network location. After the system firmware initializes all devices, you can press an interruption key to display the boot menu and select a desired boot device.

- Step 1. Turn on or restart the computer.
- Step 2. When the Lenovo logo appears on the screen, press F12.
- Step 3. From the boot device menu, select a boot device to start the computer.

You can make a permanent change on boot devices in the UEFI/BIOS setup utility. Select the **Boot** menu; in the **EFI** section, select the desired boot device and move it to the top of the device list. Save changes and exit the setup utility for the change to take effect.

Enable or disable F1-F12 as primary function

- Step 1. Open the UEFI/BIOS setup utility.
- Step 2. Select **Config** → **Keyboard** → **F1-F12 as Primary Function** and press enter.
- Step 3. Change the setting to **Disabled** or **Enabled**.
- Step 4. Select **Restart** → **Exit Saving Changes**.

Enable or disable always-on

For some Lenovo computers with always-on connectors, the always-on function can be enabled or disabled in the UEFI/BIOS setup utility.

- Step 1. Open the UEFI/BIOS setup utility.
- Step 2. Select **Config** → **USB** → **Always On USB** and press enter.
- Step 3. Change the setting to **Disabled** or **Enabled**.

Step 4. Select **Restart** → **Exit Saving Changes**.

Set passwords in UEFI/BIOS setup utility

This section introduces the types of passwords that you can set in the UEFI (Unified Extensible Firmware Interface) or BIOS (Basic Input/Output System) setup utility.

Password types

You can set various types of passwords in the UEFI/BIOS setup utility.

Password type	Pre-requisite	Usage
Supervisor password	No	You must enter it to start the setup utility.
User password	The supervisor password must be set.	You can use the user password to start the setup utility.
Master hard disk password	No	You must enter it to start the operating system.
User hard disk password	The master hard disk password must be set.	You can use the user hard disk password to start the operating system.

Notes:

- All passwords set in the setup utility consist of alphanumeric characters only.
- If you start the setup utility using the user password, you can only change a few settings.

Set supervisor password

You set the supervisor password to prevent unauthorized access to the UEFI/BIOS setup utility.

Attention: If you forget the supervisor 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.

- Step 1. Open the UEFI/BIOS setup utility.
- Step 2. Select **Security** → **Password** → **Set Supervisor Password** and press enter.
- Step 3. Enter a password string that contains only letters and numbers and then press enter.
- Step 4. Enter the password again and press enter.
- Step 5. Select **Restart** → **Exit Saving Changes**.

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

Change or remove supervisor password

Only the administrator can change or remove the supervisor password.

- Step 1. Open the UEFI/BIOS setup utility using the supervisor password.
- Step 2. Select **Security** → **Password** → **Set Supervisor Password** and press enter.

- Step 3. Enter the current password.
- Step 4. In the **Enter New Password** text box, enter the new password.
- Step 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.

- Step 6. Select **Restart → Exit Saving Changes**.

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

Set user password

You must set the supervisor 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.

- Step 1. Open the UEFI/BIOS setup utility using the supervisor password.
- Step 2. Select **Security → Password → Set User Password** and press enter.
- Step 3. Enter a password string that contains only letters and numbers and then press enter. The user password must be different from the supervisor password.
- Step 4. Enter the password again and press enter.
- Step 5. Select **Restart → Exit Saving Changes**.

Enable power-on password

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

- Step 1. Open the UEFI/BIOS setup utility.
- Step 2. Select **Security → Password → Power on Password** and press enter.

Note: The supervisor password must be set in advance.

- Step 3. Change the setting to **Enabled**.
- Step 4. Select **Restart → Exit Saving Changes**.

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

Set hard disk password

You can set a hard disk password in the setup utility to prevent unauthorized access to your data.

Attention: Be extremely careful when setting a hard disk password. If you forget the hard disk password, a Lenovo authorized service personnel cannot reset your password or recover data from the hard disk. You must take your computer to a Lenovo authorized service personnel to have the hard disk drive replaced. Proof of purchase is required and a fee will be charged for parts and service.

- Step 1. Open the UEFI/BIOS setup utility using the supervisor password.
- Step 2. Select **Security → Password → Set Hard Disk Password** and press enter.

Note: If you start the setup utility using the user password, you cannot set the hard disk password.

- Step 3. Follow on-screen instructions to set both master and user hard disk passwords.

Note: The master and user hard disk passwords must be set at the same time.

Step 4. Select **Restart → Exit Saving Changes**.

If the hard disk password is set, you must provide the correct password to start the operating system.

Change or remove hard disk password

Step 1. Open the UEFI/BIOS setup utility.

Step 2. Select **Security → Password**.

Step 3. Change or remove the hard disk password.

To change or remove the master password, select **Change Master Password** and press enter.

Note: If you remove the master hard disk password, the user hard disk password is also removed.

To change the user hard disk password, select **Change User Password** and press enter.

Note: The user hard disk password cannot be removed separately.

Step 4. Select **Restart → Exit Saving Changes**.

Set strong password

You can set a strong password to strengthen the password security.

Step 1. Open the UEFI/BIOS setup utility.

Step 2. Select **Security → Password → Set Strong Password** and press enter.

Step 3. Change the setting to **Disabled** or **Enabled**.

Step 4. Select **Restart → Exit Saving Changes**.

If the strong password is enabled, supervisor password, user password, and hard disk password lengths must range between eight and 128 characters. Each password must include at least one uppercase character, one lowercase character, and one number.

Chapter 4. Help and support

Frequently asked questions

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>.

Why does my screen brightness change constantly?

Your computer may include an ambient light sensor and the adaptive brightness feature is enabled. The light sensor can detect the intensity of the surrounding light. Using data provided by the sensor, the operating system can dynamically adjust the screen brightness.

The adaptive brightness feature of the operating system can be disabled. For Windows operating systems, adaptive brightness settings are usually found in **Settings → System → Display**.

Why does my computer start automatically when I open the lid?

Your computer may have Flip to Start enabled. Many Lenovo notebook computers include a sensor that can detect the angle at which the lid is opened. When you open the lid, the sensor can detect this behavior. If Flip to Start is enabled, the computer will respond by starting up automatically.

If you don't like this feature, you can disable it. Flip to Start can be enabled and disabled in:

- Lenovo Vantage or Lenovo PC Manager
- Firmware Setup Utility

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.

Self-help resources

Use the following self-help resources to learn more about the computer and troubleshoot problems.

Resources	How to access?
Troubleshooting and frequently asked questions	<ul style="list-style-type: none">• https://www.lenovo.com/tips• https://forums.lenovo.com
Accessibility information	https://www.lenovo.com/accessibility
Reset or restore Windows	<ul style="list-style-type: none">• Use Lenovo recovery options.<ol style="list-style-type: none">1. Go to https://support.lenovo.com/HowToCreateLenovoRecovery.2. Follow the on-screen instructions.• Use Windows recovery options.<ol style="list-style-type: none">1. Go to https://pcsupport.lenovo.com.2. Detect your computer or manually select your computer model.3. Click Troubleshoot & Diagnose → Custom Troubleshooting → Operating System Diagnostics and then follow the on-screen instructions.
Use Lenovo Vantage or Lenovo PC Manager to: <ul style="list-style-type: none">• Download and install the latest drivers and firmware.• Configure hardware settings.• Diagnose computer hardware problems.• Check the computer warranty status.	Use Windows Search.
Product documentation: <ul style="list-style-type: none">• Generic Safety and Compliance Notices• <i>Safety and Warranty Guide</i>• <i>Setup Guide</i>• <i>This User Guide</i>• <i>Regulatory Notice</i>	<ol style="list-style-type: none">1. Go to https://support.lenovo.com.2. Detect your computer or select your computer model manually.3. Select Documentation and filter out the documentation you want.

Resources	How to access?
<p>Lenovo Support Web site with the latest support information on the following:</p> <ul style="list-style-type: none"> • Drivers and software • Diagnostic solutions • Product and service warranty • Product and parts details • Knowledge base and frequently asked questions 	<p>Visit https://support.lenovo.com.</p>
<p>Windows help information</p>	<ul style="list-style-type: none"> • Use Get Help or Tips. • Use Windows Search. • Microsoft Support Web site: https://support.microsoft.com

What is a CRU?

Customer replaceable units (CRUs) are parts that can be replaced by the customer. A Lenovo computer may contain the following types of CRUs:

CRU type	Description
Self-service CRU	Parts that can be replaced easily by customers themselves or by trained service technicians at an additional cost.
Optional-service CRU	Parts that can be replaced by customers with a greater skill level. Trained service technicians can also provide service to replace the parts under the type of warranty designated for the customer's machine.

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 a 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* at https://www.lenovo.com/warranty/llw_02.

CRUs for your product model

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

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

Notes:

- CRU replacement instruction is provided in one or more of the following publications and is available from Lenovo at any time upon your request.
 - the product *User Guide*
 - the printed publications that come 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/partnerlocator> for more information.

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
<ul style="list-style-type: none">• Product name• Machine type and serial number	<ul style="list-style-type: none">• 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/supportphonenumberlist>.

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.

Chapter 5. 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 fn lock

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 fn lock 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-functionkeys, you can turn on fn lock. 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 find it difficult 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.

Notes: 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.

Step 1. Select **Start → Settings → Accessibility → Text size**.

Step 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.

Step 1. Select **Start → Settings → Accessibility → Contrast themes**.

Step 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.

Step 1. Select **Start → Settings → Accessibility → Magnifier**.

Step 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.

Appendix A. Accessories

Depending on the model, your computer might not come with certain accessories.

Lenovo Magic Bay Light

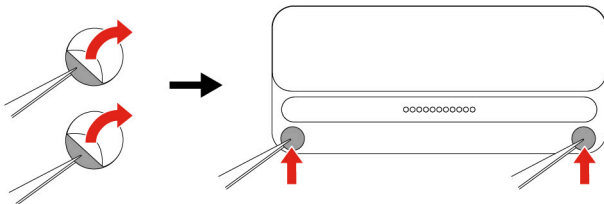
Lenovo Magic Bay Light is an adjustable light extension module.



Figure 3. Lenovo Magic Bay Light – front view

No.	Description
1	Touch button
2	Pogo pins connector
3	LED Light

Note: Attach the two rubber feet before installing the module.



Touch button

Press the touch button for power and brightness adjustment.

Pogo pins connector

This connector consists of a magnetic strip and a set of pogo pins for magnetically attaching your computer with a set of matching metal contacts.

LED Light

The LED light provides extra light source for computer camera.

Lenovo Magic Bay 4K Webcam

Lenovo Magic Bay 4K Webcam is a camera extension module.

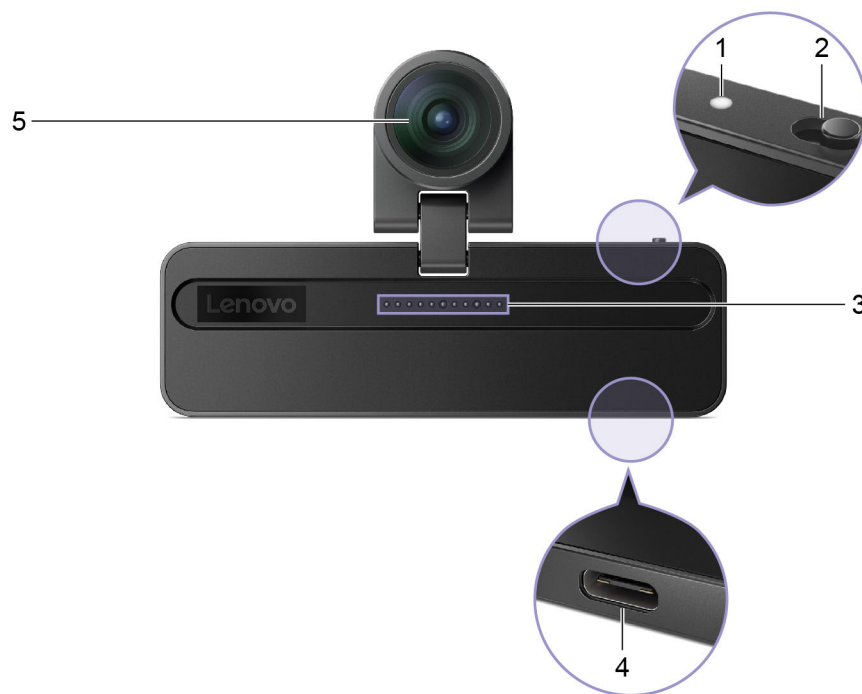
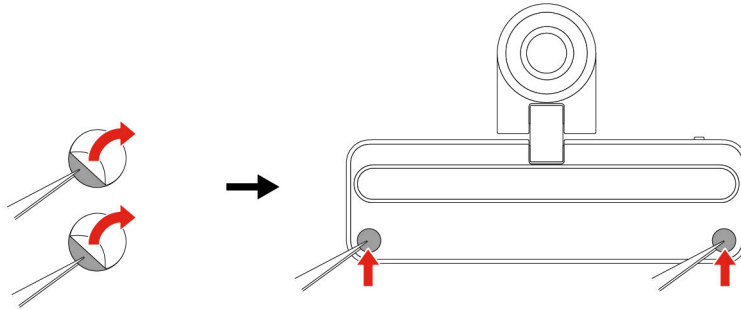


Figure 4. Lenovo Magic Bay 4K Webcam — front view

No.	Description
1	Camera light
2	Camera switch
3	Pogo pins connector
4	USB Type-C connector
5	Camera

Note: Attach the two rubber feet before installing the module.



Camera light

The camera light indicates whether the camera is activated.

Table 15. Camera light status and description

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

Camera switch

This toggle switch is used to enable or disable the camera.

Note: This switch is designed for privacy protection. If you don't need to use the camera, slide the switch to the off position to prevent any apps from using the camera.

Pogo pins connector

This connector consists of a magnetic strip and a set of pogo pins for magnetically attaching your computer with a set of matching metal contacts.

USB Type-C connector

This USB Type-C® connector is used to connect your computer for device interconnection.

Camera

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

Lenovo Magic Bay LTE

Lenovo Magic Bay LTE is a 4G LTE dongle device.

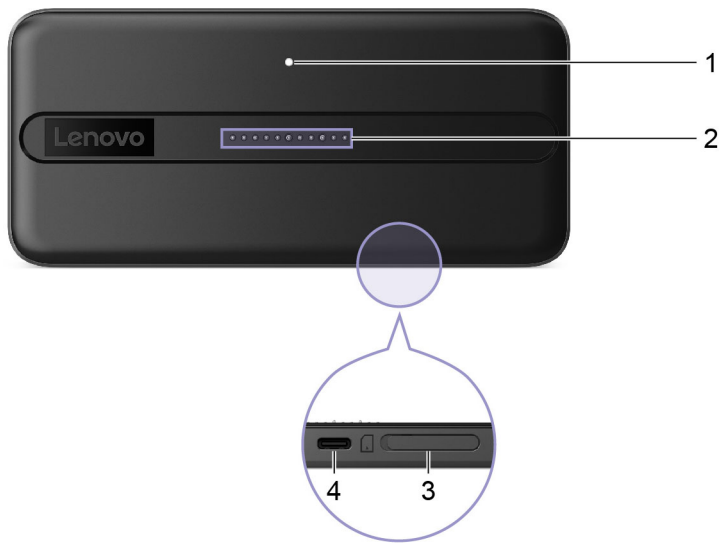
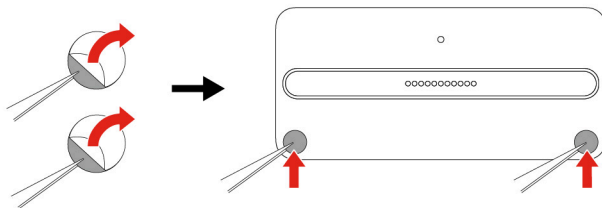


Figure 5. Lenovo Magic Bay LTE — front view

No.	Description
1	Mobile network connection light
2	Pogo pins connector
3	Nano SIM card slot
4	USB Type-C connector

Note: Attach the two rubber feet before installing the module.



Mobile network connection light

The mobile network connection light indicates whether mobile network is connected.

Table 16. Mobile network connection light status and description

Internet connection light status	Description
On	The computer is connected to mobile network.
Off	The computer is disconnected to mobile network.

Pogo pins connector

This connector consists of a magnetic strip and a set of pogo pins for magnetically attaching your computer with a set of matching metal contacts.

Nano SIM card slot

Use the nano Subscriber Identity Module (SIM) card (sold separately) to connect to a mobile broadband network.

USB Type-C connector

This USB Type-C® connector is used to connect your computer for device interconnection.

Appendix B. Notices and trademarks

Notices

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