

Paul Thurrott

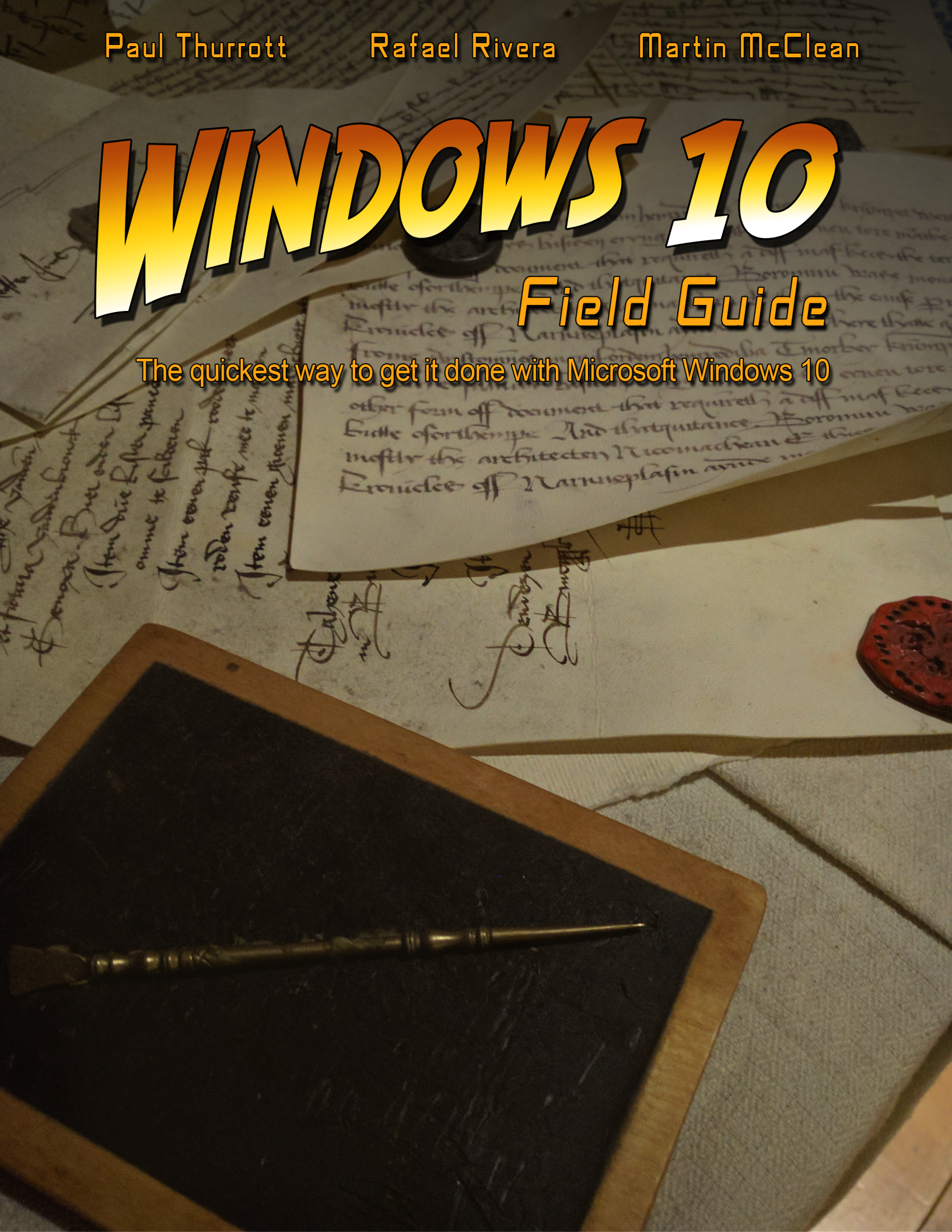
Rafael Rivera

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# WINDOWS 10

## Field Guide

The quickest way to get it done with Microsoft Windows 10





# Windows 10 Field Guide

Includes Reference, Surface Pro 3, Surface Pro 4, and Surface Studio posters

Paul Thurrott, Rafael Rivera and Martin McClean

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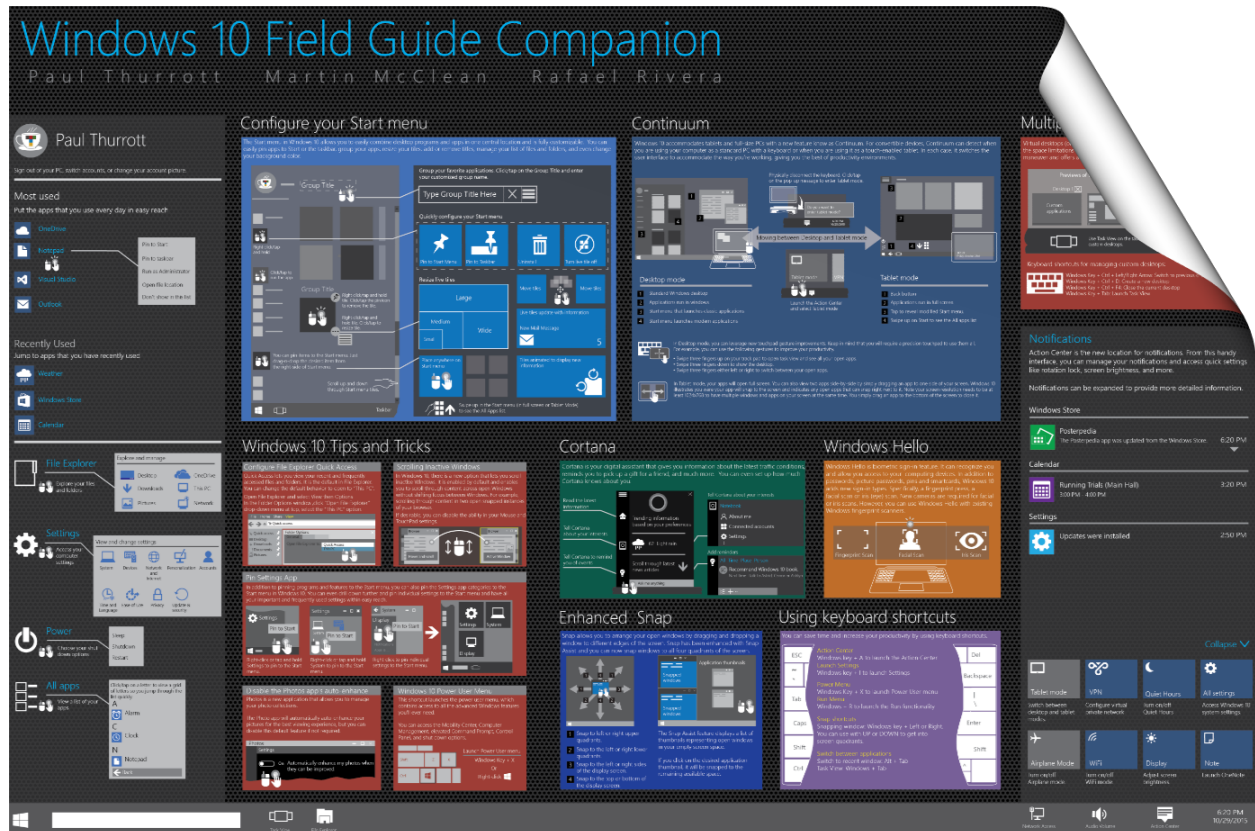
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# About the Book



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## Publication history

This book is now being updated for Windows 10 version 2004 and 20H2! You can find a revision history for the *Windows 10 Field Guide* at the end of the book.

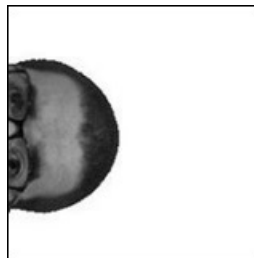
## We want your feedback!

We are very interested in any feedback you may have about the book. If you find a typo or other mistake or would like to see the book expanded to address additional topics, please contact us via email at one of the addresses noted below. Thanks!

## Meet the authors



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## Thanks!

This book is dedicated to you, our readers. Thanks for your support.

— Paul, Rafael and Martin

# Introduction

Everything old is new again.

Faced with the overwhelmingly negative reception to Windows 8, its ambitious attempt to meld traditional PCs with mobile devices, Microsoft faced a moment of truth. On one side were about 1.5 billion disenfranchised PC users, many of whom rejected the “touch-first,” full-screen mobile interfaces of Windows 8. But on the other was a smaller yet equally vocal audience of customers who had in fact embraced Windows 8, in particular on tablets and a new generation of “2-in-1” PCs for which those new interfaces were in some ways quite well-designed.

Microsoft decided it could please both audiences. More important, perhaps, it decided it could do so with a single platform, called Windows 10, which would provide users with the same store and apps, and a responsive user interface that would adapt or be custom-designed for the hardware on which it runs.

Like its predecessors, Windows 10 runs on PCs, 2-in-1s and tablets. But it also runs on an expanding range of new device types including embedded “Internet of Things” devices, phones and phablets, the Xbox One video game console, and completely new form factors like the HoloLens augmented reality headset and the Surface Hub, an epic 84-inch all-in-one PC aimed at collaborative groups, not individual users.

The result is a system that is in many ways just as audacious as Windows 8, but without most of the downsides.

*Windows 10 Field Guide*, like its own predecessor, *Windows 8.1 Field Guide*, hits at the volume part of the Windows 10 user base: PCs, 2-in-1s and tablets. Put another way, *Windows 10 Field Guide* is a full-length e-book about the latest version of Microsoft Windows, aimed at those users who will upgrade from Windows 7 or Windows 8.1, or acquire Windows 10 with a new PC or device.

And like its predecessor, *Windows 10 Field Guide* is...

**Self-published.** We wrote this book ourselves and there’s no publishing company to get in the way. Because it’s electronic, not paper, we can and will keep it up to date regularly going forward.

**Transparent.** This book is written and updated transparently and publicly, over time, so you can follow along, download any and all updates, and provide feedback as it is updated. That is, unlike a book that is published traditionally and left to sit (rot?) on a book store’s shelves, *Windows 10 Field Guide* is a living, breathing entity. And it will continue to grow and evolve as Windows 10 does over the coming weeks, months, and years. You get updates for free. For how long? We’re not sure yet. Three years? We’ll see.

**Inexpensive.** A traditional technical book about Windows 10 typically retails for \$29.99 to \$49.99 and is made available in print and e-book formats. But the authors receive only a very small portion



of that price. With *Windows 10 Field Guide*, we are using the pricing model popularized by mobile apps, but with a twist: we're letting you, the reader, pick your price so you can pay more (or less) than our recommended price of \$14.99.

**Available in multiple formats.** So what does \$14.99 buy you these days? In this case, it provides you with one or more electronic versions of the book in the following formats: PDF, MOBI and EPUB. Get one, get them all. And get any and all updates as they come out.

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**A how-to *and* a reference.** This book provides tips, how-to's and reference information about Windows 10, and assumes only that you have used some version of Windows previously. But rather than cover every single little checkbox and option in all apps and features, this book focuses on the important stuff, on what's new and what's changed in Windows 10, so you can quickly get up to speed and master this new OS version and be productive as quickly as possible. There's no patter, and no fluff.

**Incomplete, by design.** Like Windows 10 itself, *Windows 10 Field Guide* will never really be complete. We are updating the book regularly going forward, and whenever Microsoft meaningfully updates Windows 10 or its bundled apps. This was a key reason for self-publishing and doing so electronically: We can and will update this book regularly, and it will never be out of date.

**Interactive.** You're a part of this, too, or at least you *can* be. We want to hear from you while we're updating the book, and if you have any feedback about what's already written, the topic coverage, the formatting, or whatever, we're listening.

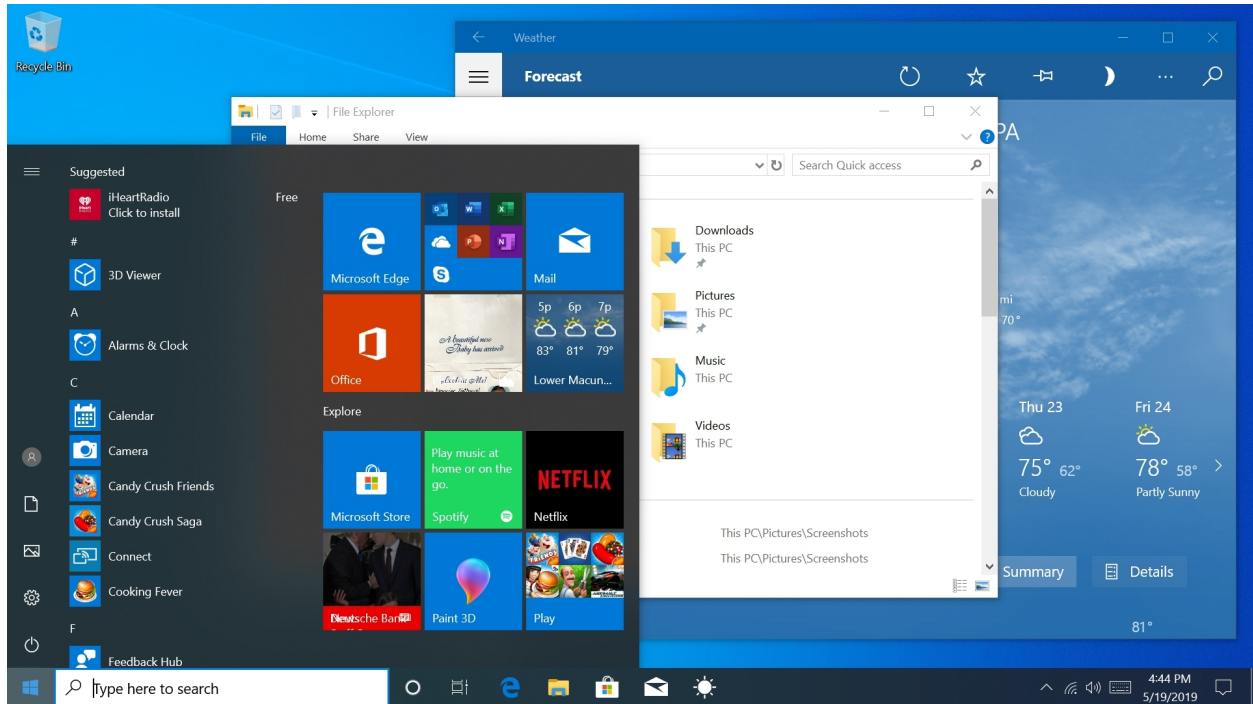
**Windows 10 Field Guide** is the only Windows book you'll ever need for your PCs, 2-in-1s and tablets. And if it isn't, tell us. We'll fix it.

Thanks for reading. Seriously, we couldn't—and wouldn't—have done this without you.

— Paul Thurrott, Rafael Rivera and Martin McClean

November 2015

# Get to Know Windows 10



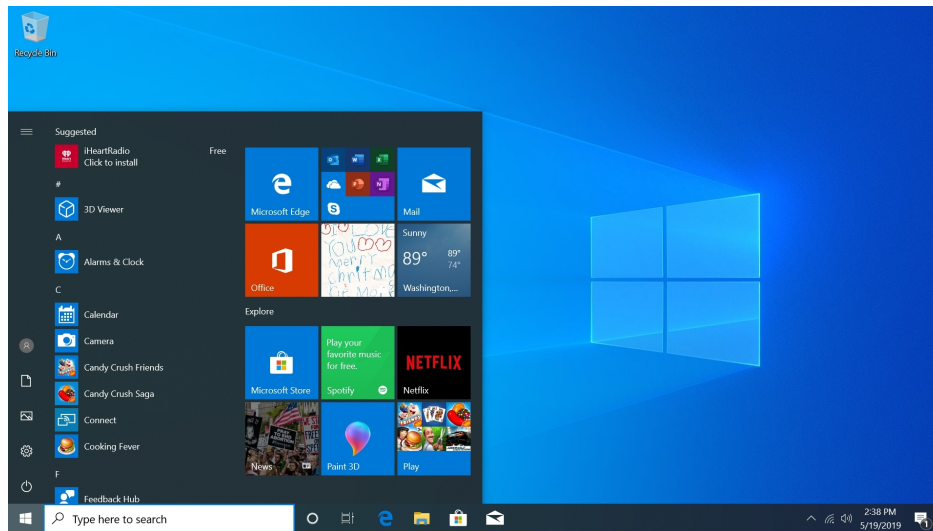
Windows 10 is equally at home on traditional PCs, touch-first devices like tablets, *and* hybrid and convertible PCs that offer both traditional and touch-based usage methods.

For this reason, many basic actions you perform in Windows can be completed in different ways, depending on how you interact with the PC. But it should be familiar, no matter which Windows version you previous used or preferred.

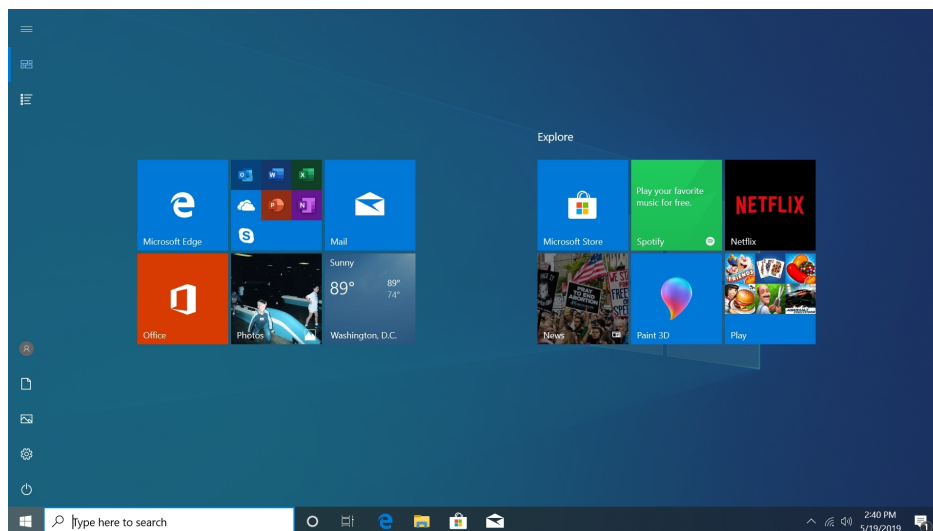
With that in mind, let's take a quick look at the basic user experiences in Windows 10.

## Start: Menu or full-screen

The Windows Start experience appears as a menu by default.



You can optionally configure Start to appear as a full-screen experience that is better suited for tablet PCs, if you'd prefer.



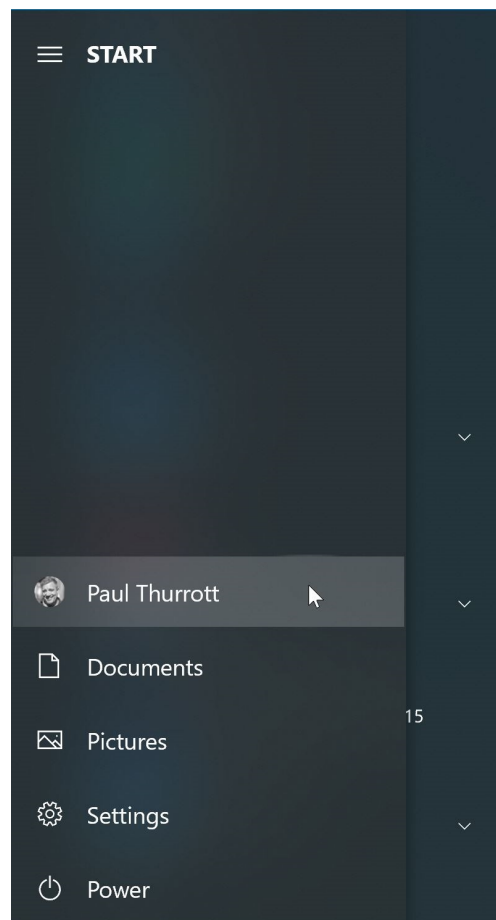
However you choose to use it, Start is accessed via the familiar Start button, located by default in the bottom left corner of the screen. You can also use the Windows key on your keyboard or the Windows button on your PC (if present) to display (or hide) Start.

Start offers three main areas: A navigation pane on the left with User, file locations, Settings, and Power options (by default); a center column with Recently Added, Suggested, and All Apps lists (hidden when Start is full-screen); and a third column on the right for live tiles.



You can customize how Start looks, including which items appear in Start. Please refer to the *Personalize* chapter for more information.

When you mouse-over the navigation pane in Start, it expands to display the name of each item it contains.



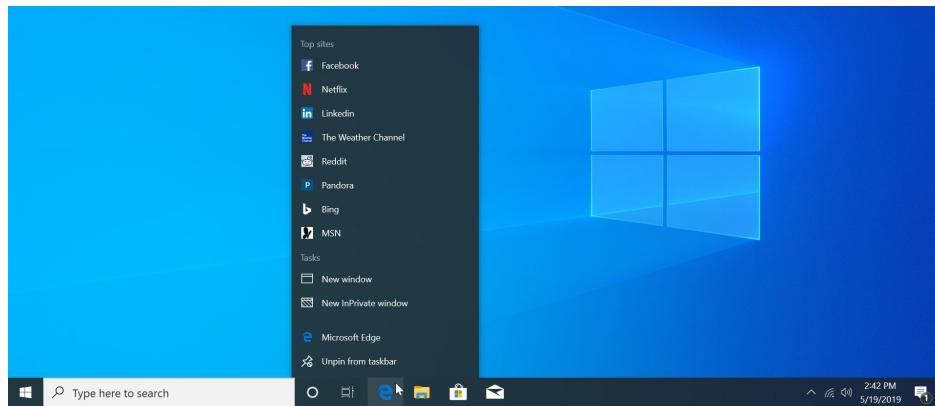
## Taskbar: Manage apps and windows

The taskbar works much like that in previous Windows versions. You can pin shortcuts for the Store apps, desktop applications, web apps and web pages, and other items you use frequently, and running apps and open windows will appear there automatically. A special area—to the right by default—called the notification area provides status icons for OneDrive, networking, sound, the Action Center (which lets you access notifications and quick actions), and other features, plus a clock and calendar.

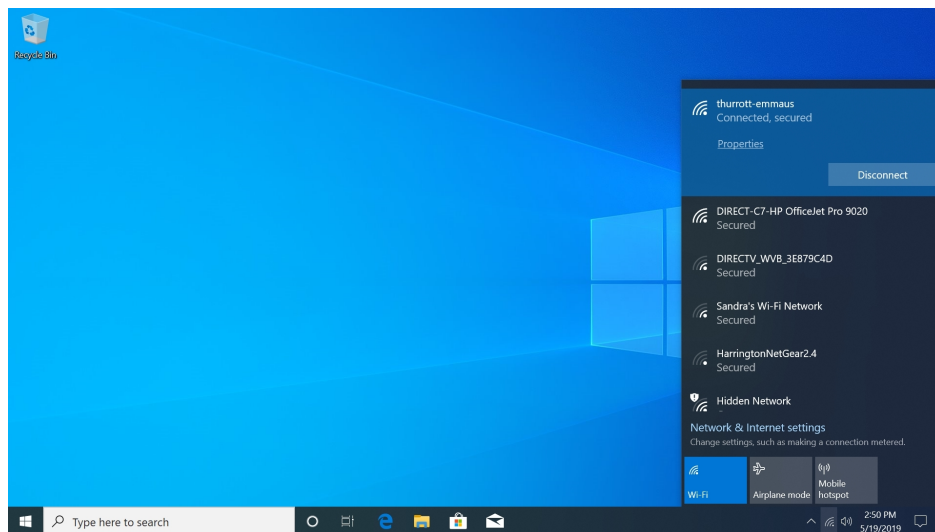


Most interactions here will be familiar. One of the less obvious features is that you can right-click on taskbar buttons to access special jump lists, which can do things like show frequently-accessed locations for File Explorer, a list of recent documents in applications like Microsoft Word or Excel, or top sites in Microsoft Edge.



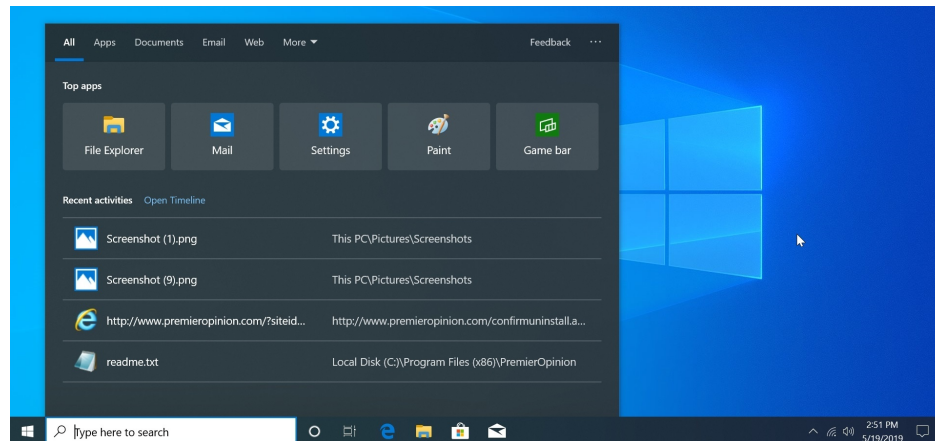


And be sure to check out the pop-up windows you see when you select notification area items like Network, Speakers, and the clock/calendar. These are much bigger and easier to use than in previous Windows versions.



## Search: Find what you need

The Search feature in Windows helps you find apps, documents, email, folders, music, people, photos, settings, or videos on your PC. You can even use it to search the web if you'd like.



By default, you access Search using the search box that appears on the taskbar to the right of the Start button. But you can configure smart search to appear as a button instead if you'd like. Or you can hide it and simply access it from Start directly: Just open Start and start typing.

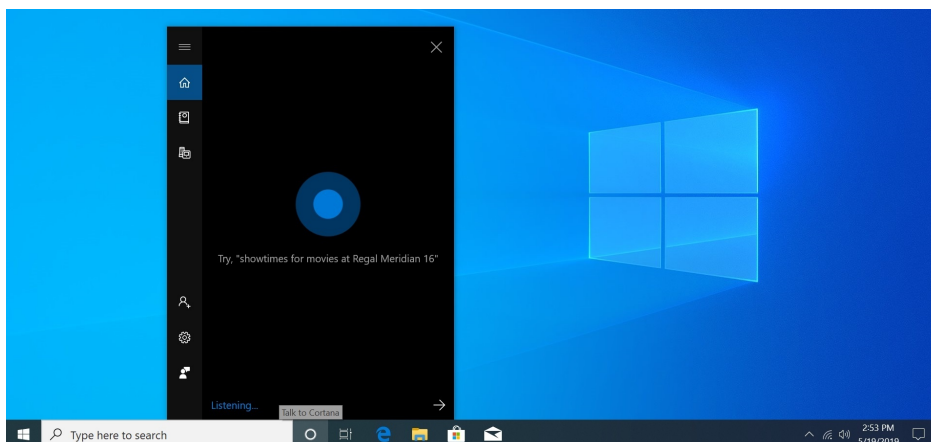


We recommend hiding Search since it takes up valuable taskbar real estate and it works normally without a search box or button.

The tabs at the top of the Search pane let you filter search results to display only certain types of items. If you're looking specifically for a document on your PC, for example, you can select the Documents tab to display only documents.

## Cortana: Speak and you shall receive

Windows includes a voice-controlled “personal digital assistant” called Cortana that answers questions, manages your schedule, tracks packages, and can even tell jokes. If it's available where you live—Cortana is enabled for those in Australia, Brazil, Canada (English and French), China (Simplified Chinese), France, Germany, India (English), Italy, Japan, Mexico, Spain, the United Kingdom, and the United States (English)—you will see a round Cortana button on your taskbar to the right of the Search box by default.



You don't need to take up valuable space on the taskbar to use Cortana. Instead, you can configure Windows to invoke Cortana when you say "Hey, Cortana" and/or type WINKEY + C. To do so, navigate to Settings (WINKEY + I) > Cortana and enable either option.

At one time, Microsoft positioned Cortana as a key feature of Windows, and it used to be integrated with Search and Start. Now, however, Cortana is being deprecated in favor of third-party assistants like Amazon Alexa and Google Assistant. For this reason, we mostly ignore Cortana in this book.

## Desktop: Your scratch space

The desktop works much as it did in previous Windows versions. As you might expect, given its two decades-plus lifespan, the Windows desktop is optimized for traditional computing interfaces like mouse and keyboard but it does offer some concession for touch—like bigger controls, especially in right-click menus—and it works well with a pen/stylus too, if your PC supports these technologies.

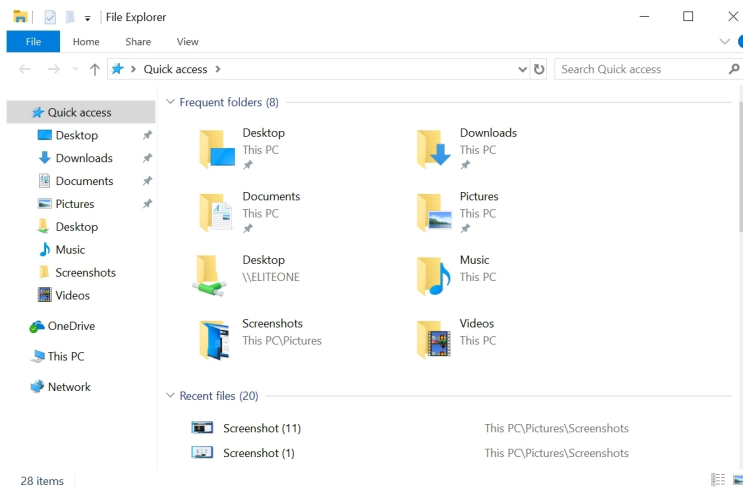


As always, the desktop can be customized with your own wallpaper, color scheme, pinned taskbar apps and more. All this is described in the *Personalize* chapter.

You can hide all on-screen windows and view the desktop at any time, and in various ways. The quickest is to type WINKEY + D. But if you aren't using a keyboard, you can also click the tiny "Peek at desktop" tile to the right of the Action Center, at the far end of the taskbar.

## File Explorer: Manage documents and files

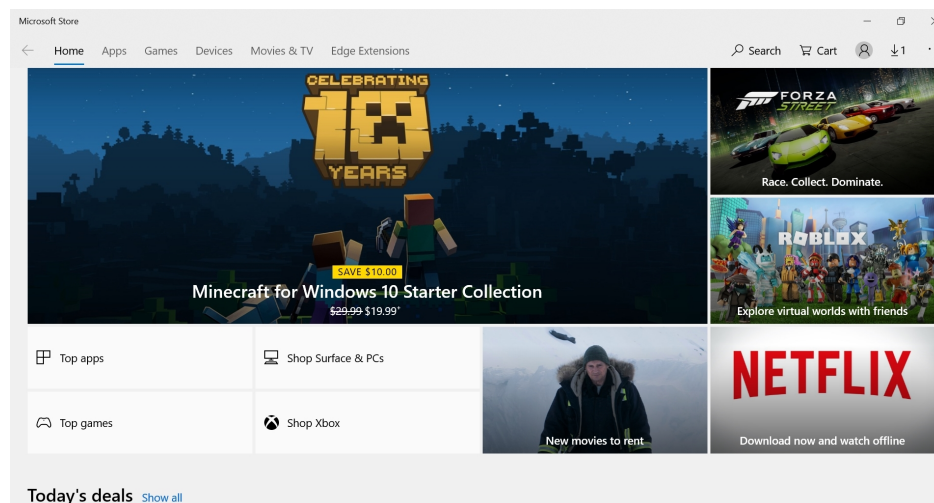
File Explorer is the Windows file management application, and it continues forward from previous Windows versions with only subtle changes. Key among them is the name—it used to be called Windows Explorer and File Manager, back in the day—and its new default view, called Quick access.



You can change this to the more traditional This PC view—which used to be called My Computer—if you’d like. And we recommend it. To do so, open File Explorer, navigate to View > Options > Change folder and search options, and locate “Browse folders” in the window that opens.

## The Microsoft Store: Apps, games, and more

Windows supports legacy desktop applications—familiar solutions such as Adobe Photoshop and Apple iTunes—as well as new Microsoft Store apps, which are available from the Microsoft Store. Surprising, we know.



Most Store apps, as they’re called, are mobile apps, similar to those found on platforms like Android and iPhone. But Microsoft has expanded the definition of the platform to include some specially-packaged desktop and web apps in the Store as well. For the most part, you don’t need to know



about the *types* of apps you're using, as they all work similarly, and can be used interchangeably and side-by-side.

The Weather app shown here is a Store app that ships with Windows.



## Action Center and notifications: Find out what's new

The Action Center in Windows works like the notification center interfaces in mobile platforms like Android and iOS: It collects the system and app notifications you have not explicitly responded to so that you can view and respond to them later. You can visit Action Center at any time to catch up on the notifications you've missed.



Do not confuse Action Center with the identically-named feature in Windows 7 and Windows 8.x. Much of the functionality from the old Action Center can now be found in a new interface called Windows Security.

Action Center is accessed using the Action Center button to the right of the taskbar's notification area.



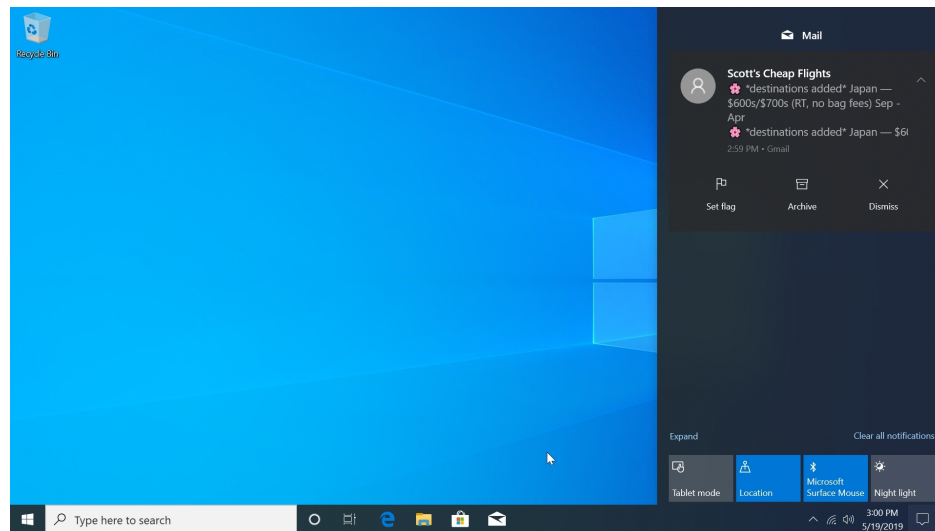
You can type WINKEY + A to toggle Action Center as well.



If you missed one or more notifications, you'll be alerted via a number badge on the Action Center button. (This number disappears when you open Action Center.)



When you open Action Center, it appears as a pane on the right side of the screen.



The larger top area of this pane is used to hold missed notifications, while the bottom area houses a collapsible grid of quick action tiles, which are frequently-needed system settings like Wi-Fi, screen brightness, Airplane Mode, and the like.

## Manage notifications

Notifications vary from app to app. But you can perform the following actions here.

**Close a notification.** If you wish to close a notification, just select the Clear (“x”) button at the top right of the notification.

**Close all notifications for one app.** If you wish to close all notifications for a single app, just select the Clear (“x”) button to the right of the app name in the list.

**Close all notifications.** Select “Clear all” at the bottom of Action Center to close all current notifications.

**Expand and collapse an individual notification.** Some notifications provide more information than can be seen in the normal notification display. In these cases, you will see a small downward-pointing caret which you can select to expand the notification and read more.

**Interact with a notification.** You can interact with some notifications in various ways. For example, like the Calendar notification shown below, provide an on-tile interface for doing so. With others, you can just select the notification to open the app and navigate directly to the item that triggered the notification. When you respond to a notification this way, it is removed from Action Center.

You can also configure certain options related to notifications and Action Center in Settings. To do so, open Settings (WINKEY + I) and navigate to System > Notifications & actions and examine the Notifications section.

Key options here include:

**Get notifications from apps and other senders.** Enabled by default, this option determines whether the system and apps are allowed to display pop-up notifications at all. If you disable this option, all notifications will be turned off.

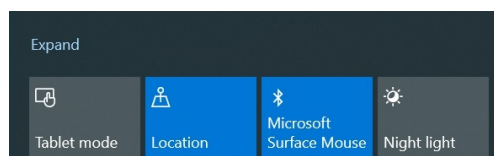
**Show notifications on the lock screen.** Also enabled by default, this option determines whether notifications are displayed over the lock screen.

**Show reminders and incoming VoIP calls on the lock screen.** Windows can display reminders and incoming Voice over IP (VoIP, as from Skype) calls over the lock screen. This option is enabled by default.

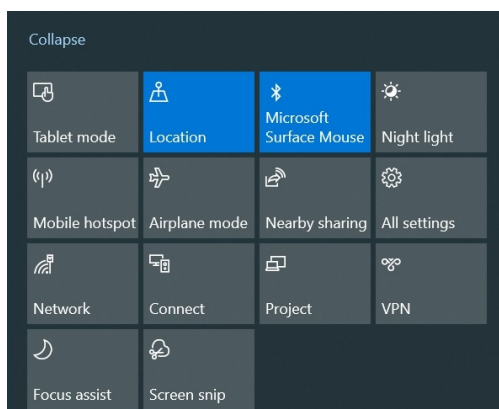
Below the Notifications section, there is also a separate section called Get notifications from these senders that lets you configure notifications from specific apps and system experiences. The “On/Off” toggle switch works as expected. But less obviously, you can select any item in this list to configure notifications for any app or system experience on a more granular level.

## Configure quick actions

In addition to its notification functionality, Action Center also provides a grid of *quick action* tiles by which you can quickly access frequently-needed system settings. By default, you will see four of these quick action tiles at the bottom of Action Center.



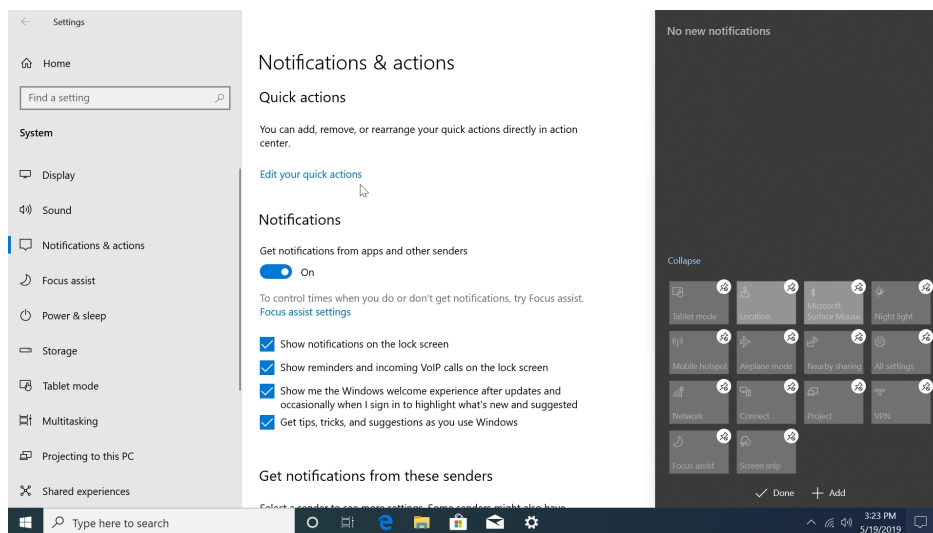
To display more action center tiles, select the “Expand” link. If the grid is already expanded, a “Collapse” link will appear instead.



There are over a dozen quick actions to choose from, and they are discussed throughout the book as needed. But a few many be non-obvious. For example, Focus assist disables notifications and system sounds so that you can stay focused while you work. Nearby sharing is a unique feature that lets you send and receive files and other content with other PCs nearby using Bluetooth or Wi-Fi connectivity. And Night light can be used to remove much of the blue light that is normally emitted by your PC's display, which can ease eye strain.



Windows lets you configure which tiles appear in the quick action area. To do so, navigate to Settings (WINKEY + I) > System > Notifications & actions and select “Edit your quick actions.” When you do, the Action Center opens in a special edit mode that lets you add, remove, and position (via drag and drop) the quick action tiles.



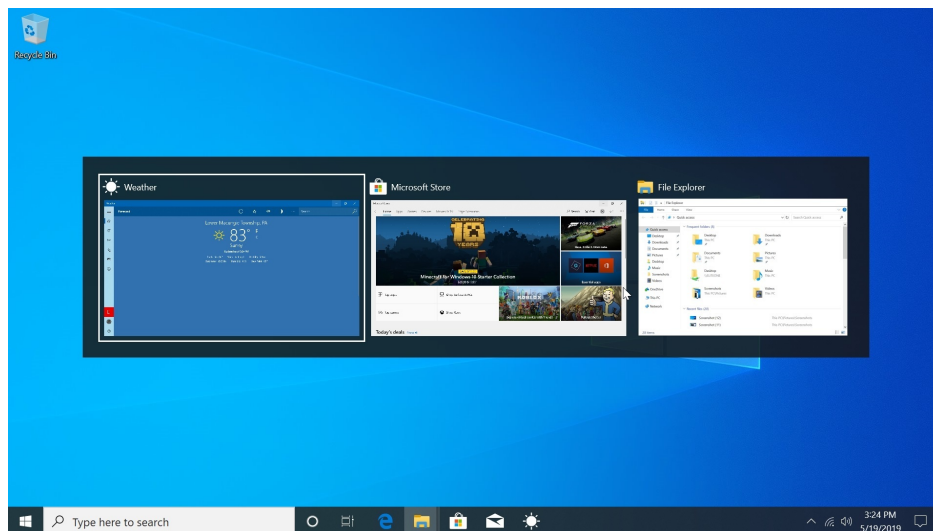
The first four tiles are the ones you will see when the quick action tiles area is collapsed. So you should put the tiles you use the most often there, especially if you wish to keep the quick action area collapsed.

## Multitasking: Manage multiple windows at once

Windows 10 builds on the multitasking features you know from previous Windows versions and adds a few new methods to help you work more efficiently with multiple applications and open windows.

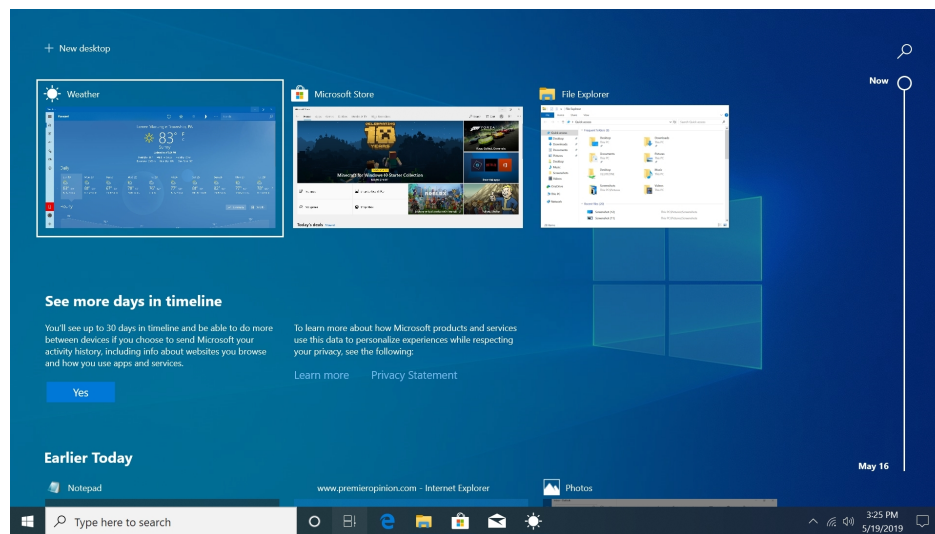
### ALT + TAB

The familiar ALT + TAB interface works as before in Windows 10, letting you switch between open windows on your screen.



### Task View

Because so few users are even aware of ALT + TAB, Microsoft has added a feature called Task View to Windows. Like ALT + TAB, Task View also lets you switch between the programs you're using. But Task View is accessed from a new taskbar button (which is enabled by default so you can't miss it), it provides a more modern full-screen experience, and it won't disappear until you press a key or click/tap on the screen.



You can also engage Task View by typing WINKEY + TAB.

As with ALT + TAB, just select the application or window you wish to use to get back to work.

## Timeline

In addition to basic task-switching functionality, Task View provides access to another Windows feature called Timeline that provides an ongoing history of your activities over time. This lets you scroll “backward through time” to see which documents and other data files you were working on earlier today and on previous days.

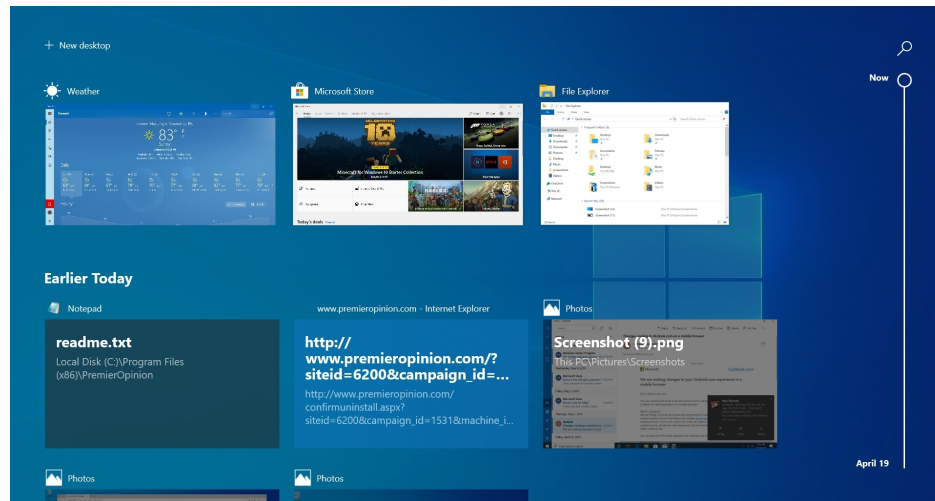
But Timeline is even more powerful than that. Thanks to its Microsoft account integration, Timeline can optionally show you documents and data files that you were working on on other PCs and on mobile devices—like iPhones, iPads, and Android devices—too.



Mobile device integration varies by platform. All of Microsoft’s mobile apps support this feature, so apps like Microsoft Edge, Word, Excel, PowerPoint, and others will automatically provide you with access to documents you had opened previously on your PCs and on other devices. And Microsoft makes an Android launcher called Microsoft Launcher that provides more native access to Timeline too.

To access your Timeline, open Task View and scroll down. The main view will display previously-opened documents and data files. And a scroll bar on the right will display the date you are currently viewing.





To share your activities between your other PCs and devices, you must select the “Yes” button at the bottom of the Timeline under “See more days in Timeline.”



You can also search here for a previously-opened documents by using the Search button in the top right.

To open a previously-edited document or data file, just select it in the Timeline. It will generally open in whatever application is associated with that file type, though Microsoft Office document files—for some reason—open in the corresponding web-based app in Office on the web, using your default browser.

## Virtual desktops

Task View also provides access to a *virtual desktops* feature. Virtual desktops let you arrange your open windows and applications in a whole new way, and then switch between desktop views that include only certain windows. For example, you might put your email and calendar applications on one virtual desktop, your web browser, word processing and presentation software on a second virtual desktop, and some games on a third.

From a window management perspective, virtual desktops work much like individual windows. You can create multiple virtual desktops, move applications and other windows between those desktops, and then use keyboard shortcuts—or Task View—to switch between the virtual desktops.

To create a new virtual desktop, open Task View and then select the New desktop link in the top left of the screen. (Or, just type WINKEY + CTRL + D.) You will see thumbnails for the previously available desktop(s) plus the new desktop in a band at the top of the screen.

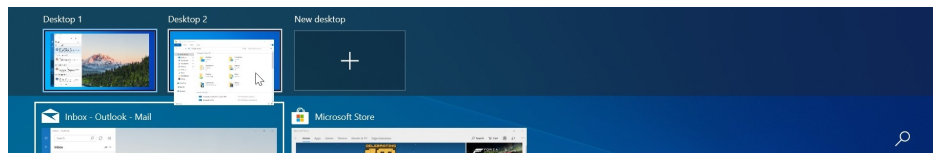


To switch between the available desktops, open Task View and select the desktop you want. Or, type WINKEY + CTRL + LEFT ARROW (or WINKEY + CTRL + RIGHT ARROW) to switch between the available desktops in turn.



If your PC has a precision touchpad—as Microsoft’s Surface devices do—you can also use a four-finger swipe (left or right) to switch between virtual desktops.

To move an app or other window from one desktop to another, open Task View, select the desktop that currently contains that window, and then drag it from the top of the display into the new desktop’s thumbnail.



To close a virtual desktop, open Task View and then select the Close box that appears above the desktop thumbnail when you mouse over it. Or, type WINKEY + CTRL + F4. (Any windows open in that desktop will move to another desktop.)



To make app or other window available in all virtual desktops, open Task View and then right-click on the appropriate window and choose “Show this window on all desktops” or “Show windows from this app on all desktops” in the pop-up menu that appears.

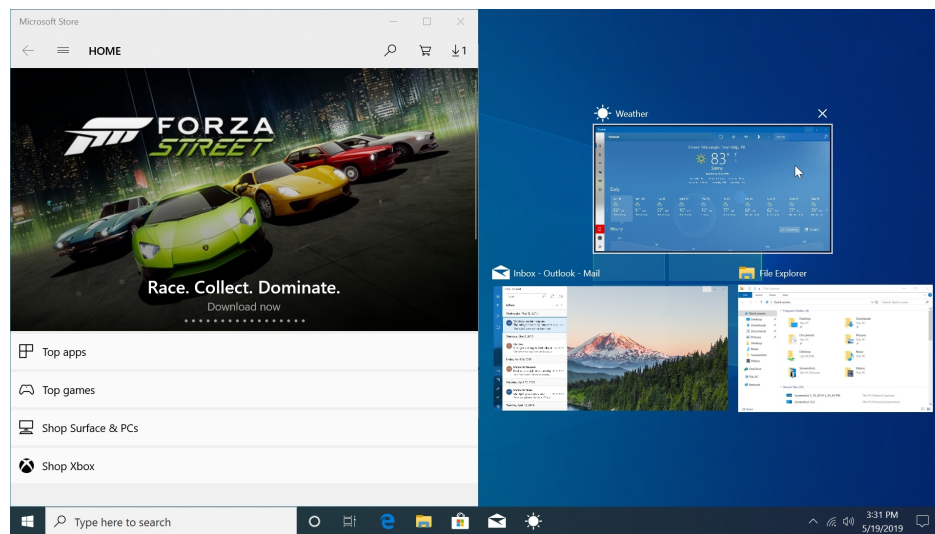


While virtual desktops are a boon to the hyper-organized, they have one major downside: They’re not persistent. So when the PC reboots or you sign-off and then sign-in again, there’s no way to recover the virtual desktops you had previously created and configured.

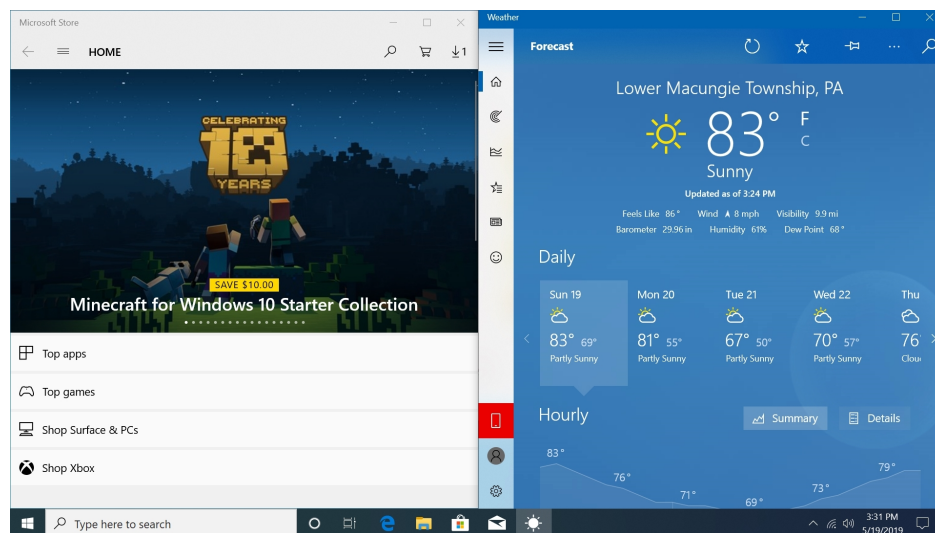
## Snap

A Windows feature called Snap lets you position, or “snap,” a floating window to a screen edge or corner, or snap it into a maximized or minimized state.

For example, if you drag a window to the left edge of the screen using the mouse or touch, it will snap in place and occupy the left half of the screen. To do this with the keyboard, make the sure the correct window is selected and then type WINKEY + LEFT ARROW.



As you can see, Snap also provides some much-needed assistance thanks to a related feature called Snap Assist that lets you instantly select another window to place side-by-side with the window you just snapped. When you snap a window, this feature presents thumbnails of your other open windows so that you can optionally choose one to fill the remainder of the screen. To snap another window, just select it from the collection of thumbnails, and it will occupy the other half of the display.



To close Snap Assist without selecting a second window, just type ESC or select a blank area of the screen.

Snap doesn't only work with one side of the screen. You can also snap a window to the right side of the screen, (using WINKEY + RIGHT ARROW as you'd expect). You can snap into the screen corners too, so that you can have up to four windows tiled onscreen: This is most easily done by typing WINKEY + LEFT ARROW followed by WINKEY + DOWN ARROW (or similar). This will place the current window into the lower left corner of the screen.

You can reverse this effect by dragging the window off of the side or corner in which it is snapped, and you can experiment with various WINKEY + ARROW KEY combinations to see the variety of possible snaps.

You can also use Snap to maximize (WINKEY + UP ARROW) or minimize (WINKEY + DOWN ARROW) a floating window. Another fun thing to try is to repeatedly type these keyboard combinations: If you repeatedly type, say, WINKEY + RIGHT ARROW on a floating window, you will cycle it through three states: Snapped right, snapped left, and then floating.

And, of course, you can position windows using your mouse or, on a multitouch display, your finger too.

## Clipboard

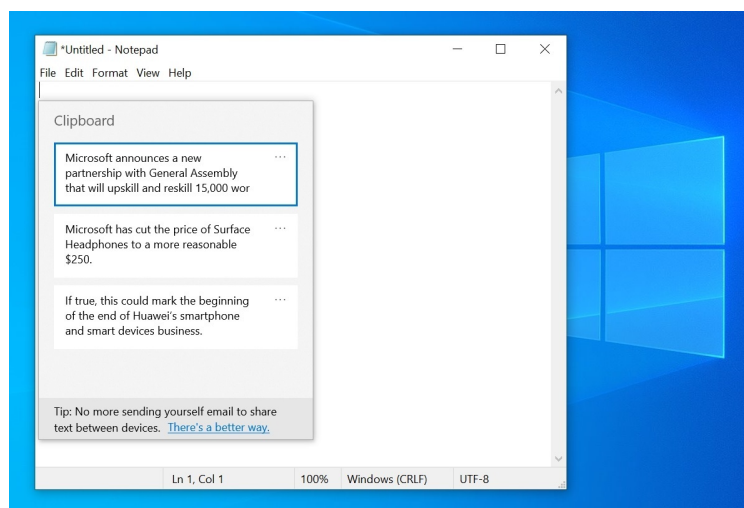
Most Windows users are probably familiar with the system clipboard, which lets you store (or “copy”) formatted text, images, and other items temporarily and then place (or “paste”) them elsewhere.



Type CTRL + C to copy selected text or other items to the clipboard. CTRL + V is used to paste. You can also use CTRL + X to “cut” an item; this copies the item to the clipboard and then deletes it.

But the clipboard offers some advanced functionality now that most users are probably unaware of. They are:

**History.** By default, the clipboard stores only the most recent item that you copied or cut. But the clipboard history feature lets you store multiple items. To choose which of the stored items to paste, use the WINKEY + V shortcut instead of CTRL + V to display a clipboard history window.



**Device sync.** This feature, sometimes called “cloud clipboard,” stores the most recently copied items in your clipboard to the cloud using your Microsoft account so that you can paste it on a different PC.



These items must be pretty small, however. Only text, HTML, and very small images are supported.



Both of these features need to be enabled before you can use them. To do so, navigate to Settings (WINKEY + I) > System > Clipboard.

## Multitouch

Windows 10 fully supports multitouch-based systems like tablets and 2-in-1 PCs, and any other PC that includes a multitouch screen. If you want to, you can interact with Windows 10 entirely using touch, and never use a mouse or keyboard again.



OK, you probably don’t want that. But if you’re just browsing the web, reading, or viewing content with a tablet-type PC, this is a nice way to go.

Touch is mostly intuitive. To select an object onscreen, simply tap the screen. To perform a right-click, tap and hold on the object with which you wish to do more. You can also “grab” items like icons and windows and drag them to a new location as you would with a mouse.

Windows also supports *edge gestures*. If you swipe in from the left edge of the screen, Task View appears. And if you swipe in from the right edge of the screen, Action Center appears. When using a full-screen app, you can also swipe in from the top of the display to view its title bar, or from the bottom to display the Start button and taskbar.

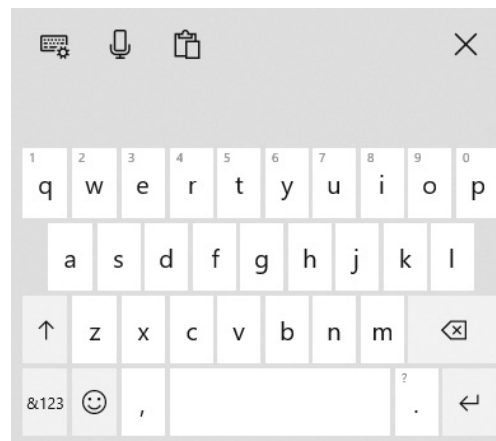
For those instances in which you need to type, just select a text box, browser address bar, or other area where you would normally enter text and the Windows touch keyboard appears onscreen.



You can also manually display this keyboard by selecting the Touch Keyboard button in the system tray.

This keyboard works as expected, but it has some useful features that might not be immediately obvious.

First, you can move the keyboard around onscreen if needed, though it is typically docked to the bottom of the screen by default. There are also alternate keyboard layouts that you can select with the Keyboards button in the upper-left. For example, the mini keyboard layout looks and works like a smartphone keyboard.



In certain languages—English (United States), English (United Kingdom), French (France), German (Germany), Italian (Italy), Spanish (Spain), Portuguese (Brazil), Russian, and possibly others—you can even use SwiftKey features like auto-correct and SwiftKey Flow, Microsoft’s form of swipe typing.

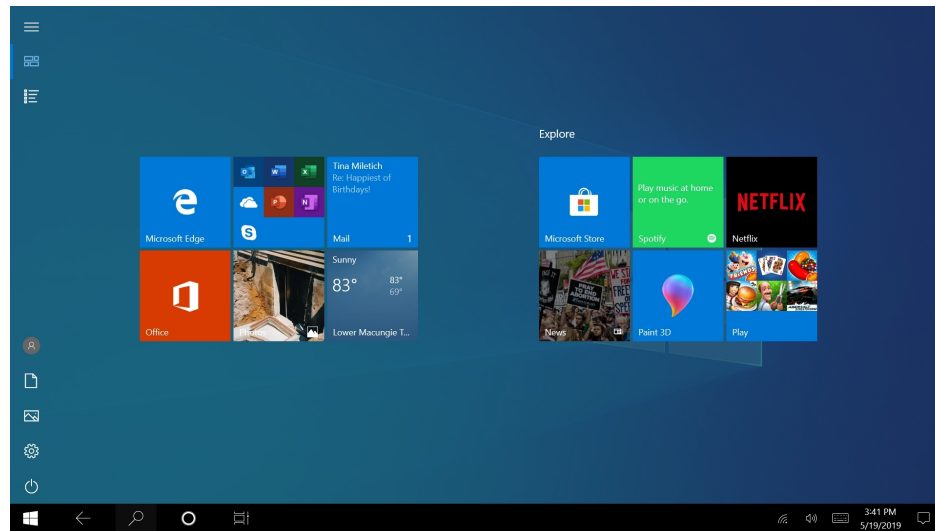


The touch keyboard even supports emojis. How delightfully frivolous.

## Tablet mode

Windows is unique in that it works equally well on traditional PC form factors as well as with newer tablet and 2-in-1 designs. A key reason for this success is a feature called Tablet mode, which can be enabled manually or, with 2-in-1 PCs, automatically as the device changes between usage modes (like laptop mode and tent mode).

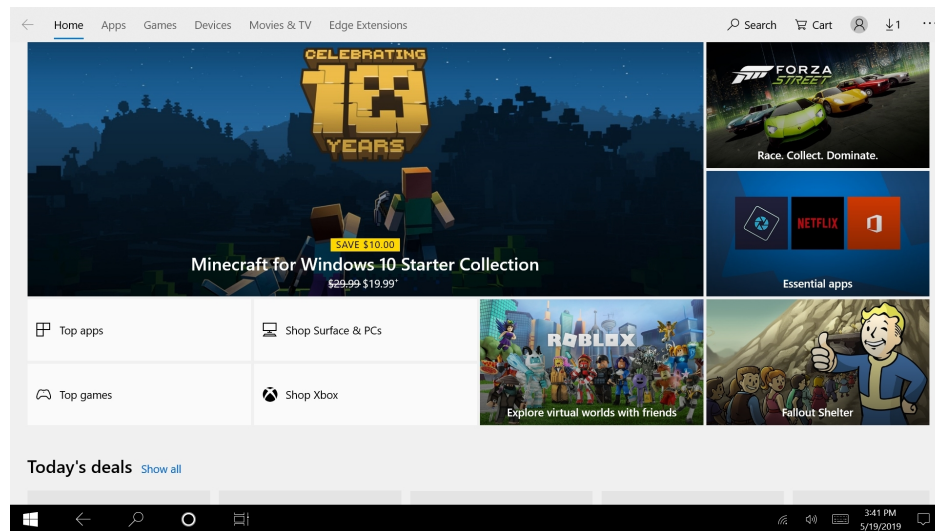




In contrast to the normal operating mode—in which Start appears as a menu by default, open apps and windows can float over the desktop, and the user interface is tailored for keyboard and mouse interaction—Tablet mode optimizes Windows for touch.

Among the obvious changes you'll see when you enable this usage mode are:

**Everything is full screen.** Start and any open apps and windows all switch into a special full screen mode and the desktop is effectively hidden.



You can still access the desktop folder using File Explorer.

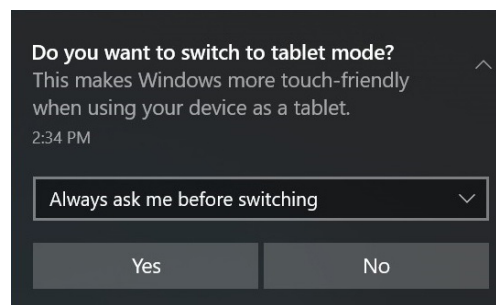
**App icons in the taskbar disappear.** By default, app icons do not appear in the taskbar. This cleans up the look of the system dramatically.

**UI elements adapt to be touch-friendly.** Among the changes here are a Back button in the taskbar that works like Back button on an Android phone, enabling you to navigate back through the app “back stack.” Plus, the icons in the notification area are spaced better for easier use by touch.

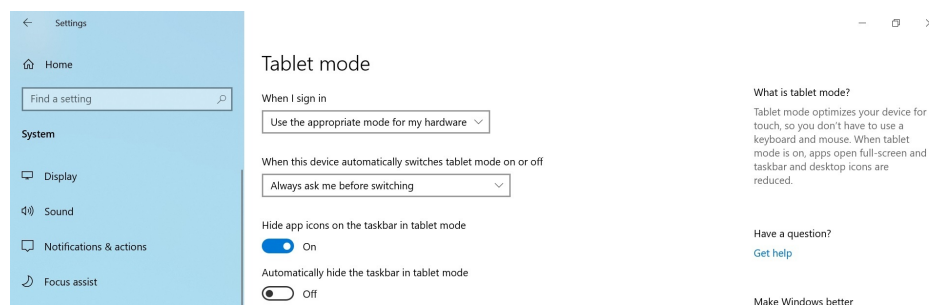
**Window title bars disappear.** And, as a result, so do the buttons—Minimize, Restore/Maximize, and Close—that control the window. However, you can swipe down from the top of the display (or, with a mouse, mouse up into the top of the display) to access the window’s Close button.

Tablet mode is the normal operating mode for Windows on tablets. But you can manually enter (or exit) Tablet mode—even on a desktop PC—at any time: open Action Center (WINKEY + A) and select the Tablet mode quick action tile. This tile acts as like a toggle: select it again to return Windows to the normal usage mode.

Thanks to a feature called Continuity, Tablet mode can also be engaged automatically. If you are using a Surface Pro or other 2-in-1 PC, you will be prompted to enter Tablet mode when you remove the Type Cover (or other keyboard). This dialog also provides you with the option to choose whether the system will simply engage Tablet mode automatically whenever that action occurs. (Likewise, it can also disable Tablet mode whenever a keyboard is detached.)



To configure Tablet mode to work the way you prefer, open Settings (WINKEY + I) and navigate to System > Tablet mode.



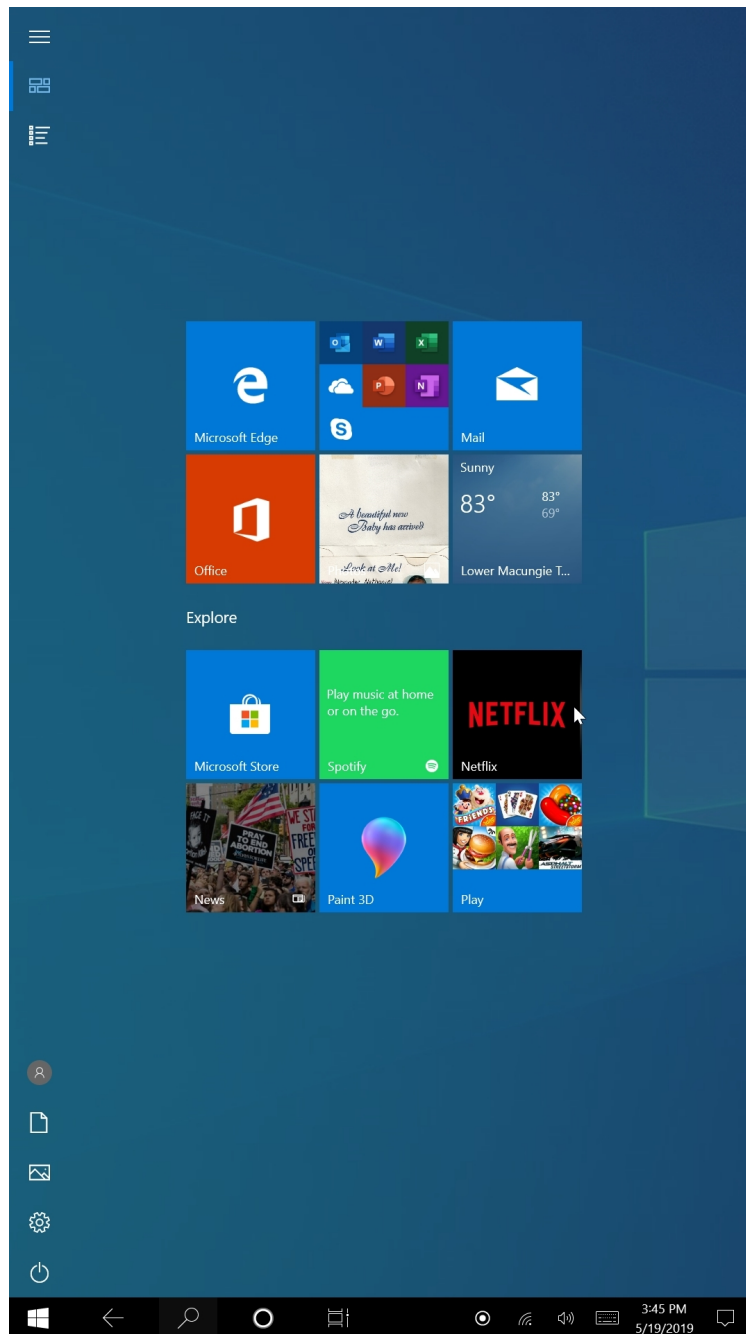
Here, you can configure Tablet mode to be the default, determine whether Windows remembers your Tablet mode configuration each time you sign in, determine whether Tablet mode engages automatically, and choose whether to hide app icons when the PC or device is in Tablet mode.



You can configure Start to be a menu or a full-screen interface independently of Tablet mode (Settings > Personalization > Start). That is, you can use Start as a full-screen interface even when Tablet mode is off.

## Portrait mode

Windows natively supports screen rotation, and compatible PCs can be used in portrait mode rather than the traditional landscape mode when desired. Indeed, some tablets are designed to be used in portrait mode primarily, as it is particularly well-suited to reading.





Tablet mode is a also good choice for tablets used in portrait mode.

All of the built-in Store apps in Windows are designed to accommodate this orientation change, but desktop applications are not. You will have better results, in portrait mode, and switching between portrait and landscape modes, if you can stick to Store apps.



PCs that support portrait mode will typically switch the orientation of the display as the device itself is rotated physically. However, you can prevent the screen from rotating if you'd like to avoid inadvertent orientation switches as you move around. To do so, open Action Center (WINKEY + A) and select the Rotation lock quick action tile at the bottom of the pane. This tile works like a toggle, so you can select it again to re-enable rotation lock.

## Smartpen

Windows natively supports smartpens that can be used for handwriting, drawing, or painting. Smartpens have improved dramatically in recent years too, and they can work and feel just like real writing implements. Many support thousands of levels of pressure, so that you can press down harder to get thicker or bolder drawing and writing strokes. And some now support tilt, so that you can tilt the pen naturally to get broader strokes as you do. Smartpens also sometimes include an electronic eraser that works exactly as you'd expect.



If you would like to use a smartpen to navigate around Windows, the rules are simple. At a basic level, it works much like navigating via touch, and you can press and hold to emulate a right mouse click. But some smartpens also provide a dedicated button on the barrel that provides right-click functionality.

## Take a screenshot: Capture an image of the screen

Windows provides many ways to take screenshots, capturing all or part of the screen graphically so you can use the resulting image elsewhere.



None of these methods will capture the mouse pointer. If you need that functionality, you will need a third-party solution such as [ShareX](#), which is available from the Microsoft Store in Windows], or [Greenshot](#). Both are free.

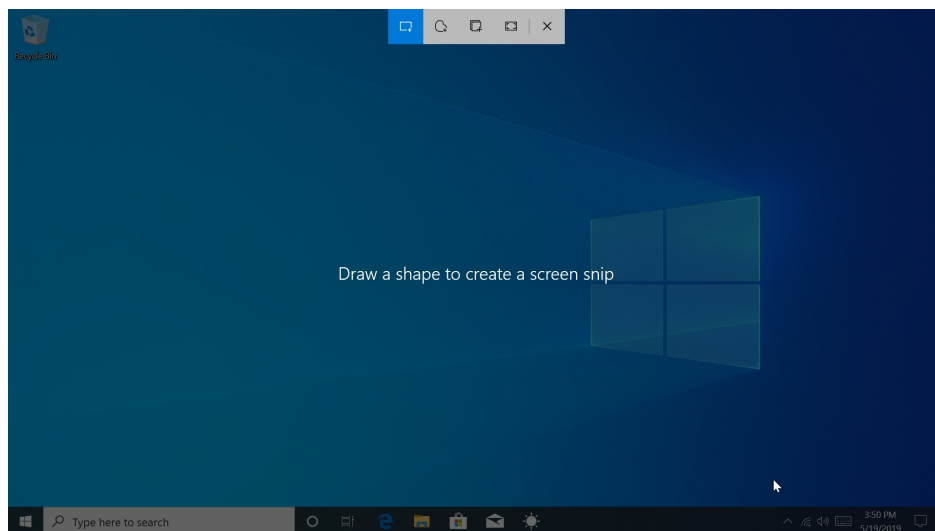
## Capture the entire screen

Type **PRTSCN** (“**Print Screen**”). This will save the screen image to the clipboard. To paste this image elsewhere (such as in Paint, Word, or other applications), type **CTRL + V**.

Type **WINKEY + PRTSCN**. This will save the screen image to the clipboard and will create a screenshot file in your Screenshots folder (in Pictures) in PNG format.

Press **START + VOLUME DOWN** buttons. On Surface and other Windows devices with hardware START and volume buttons, this will save the screen image to the clipboard and will create a screenshot file in your Screenshots folder (in Pictures) in PNG format.

**Screen snip.** Windows’ built-in Screen snip tool is available from Quick actions in Action Center. It works as a front-end for the Snip & Sketch app, which lets you take a rectangular, free form, windowed, or full-screen screenshot and then optionally mark it up and share it with others.



If you like Snip & Sketch, you can configure Windows to trigger it when you press the PRTSCN button, instead of just copying the screenshot to the clipboard. To do so, navigate to Settings > Ease of Access > Display > Print Screen shortcut and enable the option “Use the PrtScn button to open screen snipping.”

## Capture the active window

Type **ALT + PRTSCN**. This will save the screen image to the clipboard. To paste this image elsewhere (such as in Paint, Word, or other applications), type **CTRL + V**.

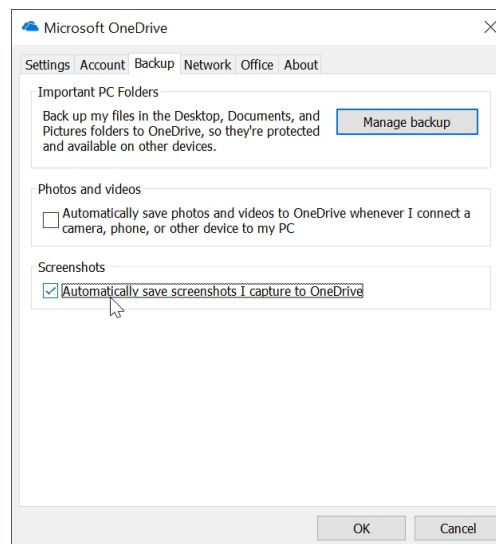
**Screen snip.** The Screen snip quick action (in Action Center) and the Snip & Sketch tool both allow you to capture an image of any window.

## Automatically save screenshots to OneDrive

While the WINKEY + PRTSCN method of capturing a screenshot will automatically save the resulting images to the Screenshots folders your Pictures folder, you can optionally save them to OneDrive as well. This is useful if you wish to sync screenshots with your other PCs or to the cloud (where they can also be accessed from mobile devices or with a web browser).

Windows will prompt you to save screenshots to OneDrive the first time you take a screenshot by typing WINKEY + PRTSCN. But you can configure this feature at any time if you declined it then.

To do so, open OneDrive Settings (right-click the OneDrive icon in the system tray—it resembles a white cloud, normally—and choose Settings from the pop-up menu that appears. Then, navigate to the Backup tab.



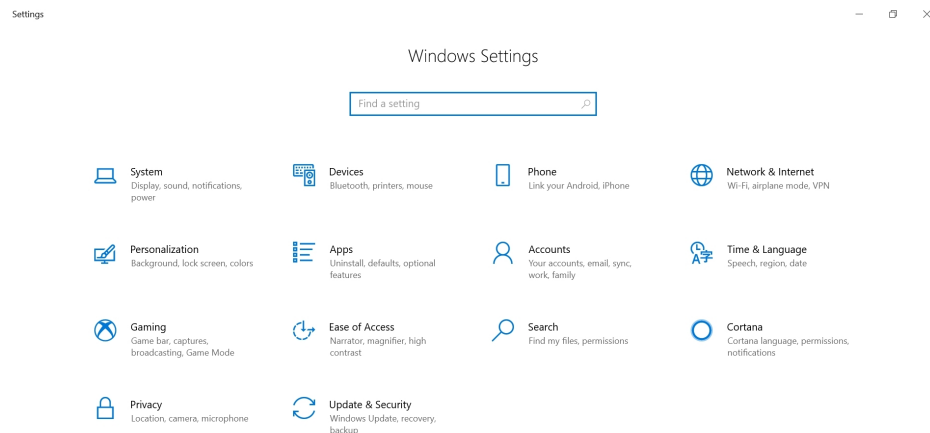
Select “Automatically save screenshots I capture to OneDrive” in the “Screenshots” section, and then click OK.

When this option is enabled, your WINKEY + PRTSCN screenshots will be saved to both the Pictures folder (on your PC) and to PicturesScreenshots in OneDrive (in the cloud).

## Settings: Customize and configure Windows

The Settings app is the modern replacement for the Control Panel interface from previous Windows versions. You can launch Settings from Start—it appears in both the leftmost column and in All Apps—or by typing WINKEY + I.





The legacy Control Panel has been largely replaced by Settings, but it is still available. There are various links to Control Panel in Settings, but you can also find it with Start search by searching for *control panel*.



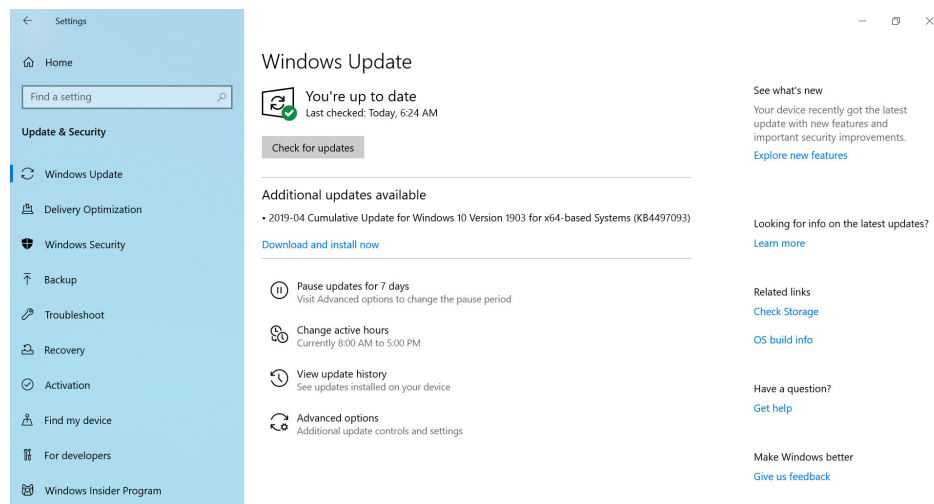
When you first configure Windows, you should spend some time in Settings configuring the system to your liking. The *Personalize* chapter describes some of the changes you may wish to make.



While most probably won't need to access individual settings all that often, it is possible to pin the Settings app to the tiles area in Start, or to the taskbar. You can even pin groups and individual settings to the tiles area in Start if you want. As always, right-click is your friend.

## Windows Update: Keep Windows up-to-date

Windows Update is the mechanism by which Microsoft delivers software updates to Windows. The rate at which these updates arrive has increased dramatically in recent years, and Microsoft now refers to this process as “Windows as a Service,” or WaaS.



You will see two types of system software updates in Windows Update, both of which are cumulative and arrives on different schedules. They are:

**Quality updates.** Consisting of both bug and security fixes, this type of update is delivered at least once a month, and often more frequently.

**Feature updates.** These updates are really major upgrades that install a new version of Windows. Features updates include bug and security fixes, like quality updates, but as the name suggests, they also bring new Windows features.

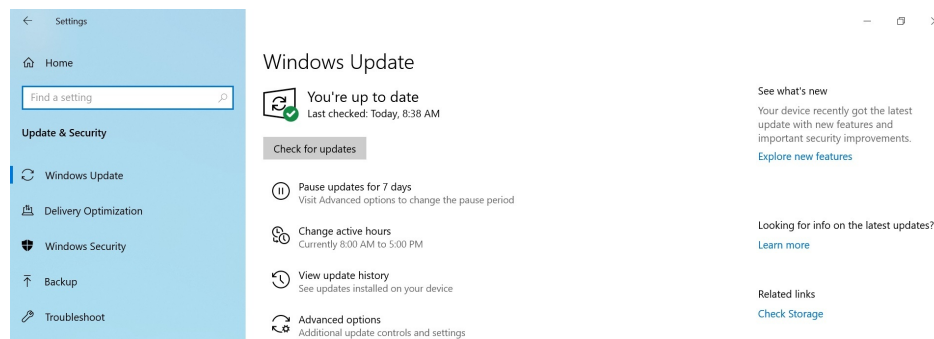


You will see other updates in Windows Update, too. Many PCs, including the Surface PCs made by Microsoft, receive firmware and driver updates via Windows Update, for example, and Windows Defender receives multiple signature updates every day.

To Microsoft's credit, Windows as a Service does make it much easier, and much quicker, to completely update a PC than was the case with previous Windows versions. And it's easier still to keep the PC up-to-date going forward: The process is largely automated for you.

That said, these updates can also be disruptive. Most quality updates, and all feature updates, require you to reboot your computer to complete the installation. Worse, our ability to control how and when these updates are installed has changed for the worse in Windows 10. These options are described below.

Windows Update is available in the Settings app. Just navigate to Update & Security > Windows Update.

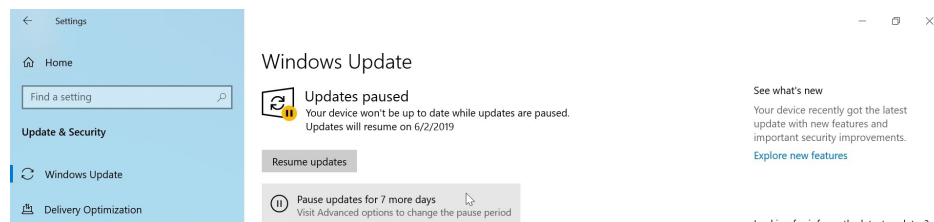


As noted, Windows Update will automatically install any pending updates for you. But you can, of course, select the “Check for updates” button if you wish to manually check for updates.

The functionality provided by the four links in Windows Update—Pause updates for 7 days, Change active hours, View update history, and Advanced options—is very important. So we’ll examine each in the following sections.

## Pause updates for 7 days (or more)

As suggested by its name, this option, when selected, allows you to pause updates for 7 days. You can select this item repeatedly to add more time to the update pausing in 7 day increments, up to 35 days total. So if you select it twice, it will pause updates for 14 days.



To reverse this change, select the “Resume updates” button that appeared.

Those with Windows 10 Pro or better can also separately delay quality and feature updates for longer periods via the Advanced options item, described below.

## Change active hours

Windows Update lets you configure those hours during which a pending Windows update will *not* warn you and then trigger an automatic restart. After all, most people don’t want to be bothered while they are working.

By default, Windows configures active hours to be between 8:00 and 5:00 pm every day. But if you'd like to change this, select the “Change active hours” link in Windows Update. The largely empty Change active hours page appears.

Here, you can configure Windows to automatically adjust active hours based on how and when you use the PC. Or you can select “Change” to configure specific hours during Windows should not install updates.

Active hours

Set active hours to let us know when you typically use this device. We won't automatically restart it during active hours, and we won't restart without checking if you're using it.

Start time

8	00	AM
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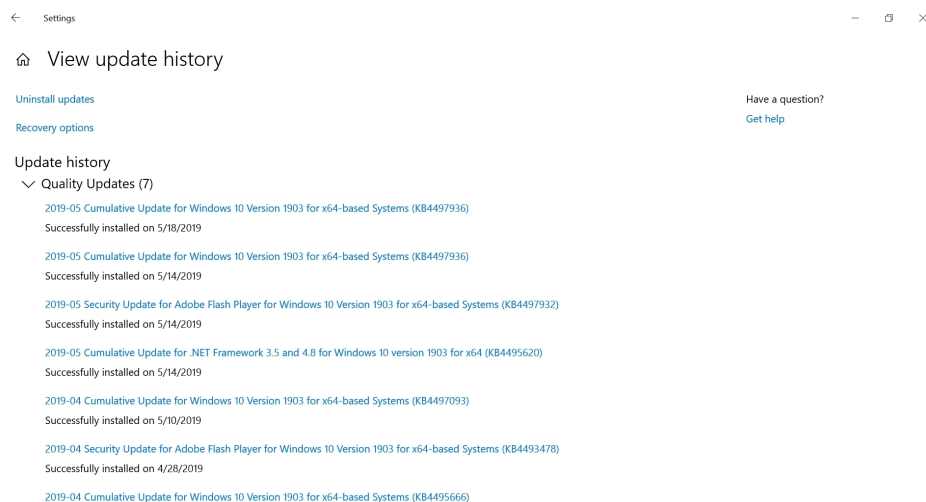
End time (max 18 hours)

5	00	PM
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Save Cancel

## View update history

The View update history display lets you view previously-installed updates, of course, and it's neatly organized to display feature updates and quality updates separately. But the two links at the top of this page—“Uninstall updates” and “Recovery options”—will be useful if you experience reliability issues after installing an update

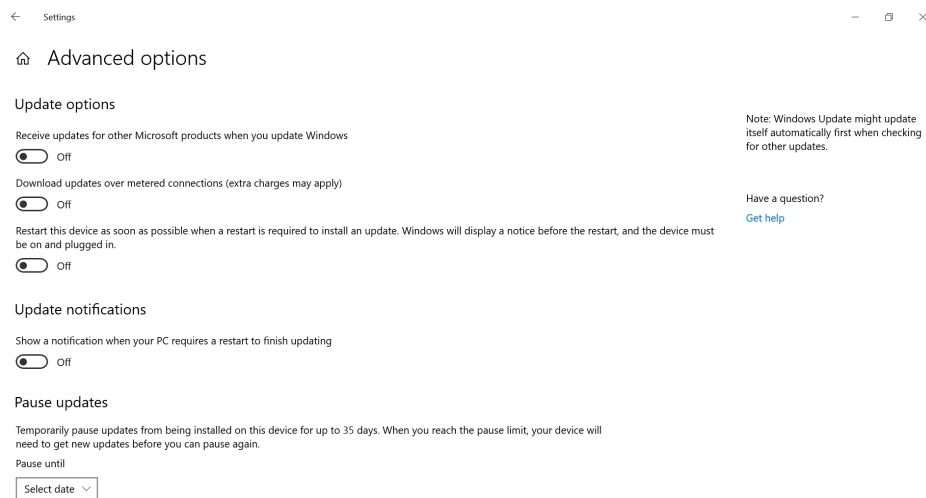


If you select “Uninstall updates,” the Installed Updates control panel appears, allowing you to uninstall some, but not all, quality updates.

The Recovery options link navigates to Settings > Update & Security > Recovery so that you can investigate the system recovery tools there.

## Advanced options

Windows Update offers many more updating options to configure the via the “Advanced options” link. However, these options vary depending on which Windows product edition you’re using. Put simply, Windows 10 Pro provides more control over updates than does Windows 10 Home.



Here, you will find:

**Update options.** The options here—“Receive updates for other Microsoft products when you update Windows,” “Download updates over metered data connections (extra charges may apply),” and “Restart this device as soon as possible when a restart is required to install an update”—are all disabled by default. For most people, this is the correct configuration.

**Update notifications.** Here, you can enable an option that will prompt you when a pending system update requires your PC to reboot. This is disabled by default, but you should consider enabling it so that your PC doesn’t reboot unexpectedly.

**Pause updates.** This option lets you temporarily pause all updates for up to 35 days in one-day increments. Once the specified time period expires, you will be unable to pause updates again until Windows has been completely updated.

**Choose when updates are installed.** Available only in Windows 10 Pro, this lets you separately defer—meaning “delay”—the installation of both feature and quality updates, and do so using unique schedules for each. Feature updates can be deferred for up to one year in one-day increments. And quality updates can be deferred for up to 30 days, also in one-day increments. Aside from the time frames, the difference between these options and the manual pause capability is that they are permanent and apply to *any* updates that are coming in the future.



Given the issues that Microsoft has had deploying reliable feature updates, we recommend deferring both sets of updates, by two months for feature updates and by at least two weeks for quality updates. That should be enough time for any bugs to be worked out, ensuring that when you do receive updates, they've been thoroughly tested and known to work well.



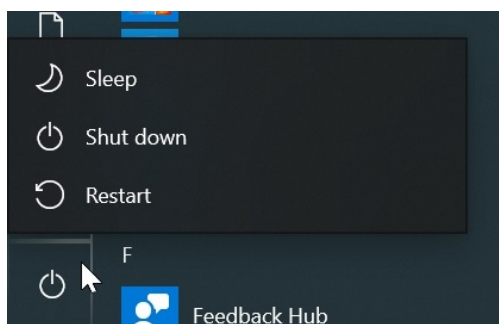
Windows 10 Home users, of course, cannot take advantage of this useful functionality and will instead need to manually delay updates for up to 35 days. The good news? Feature updates no longer install before you explicitly approve them, so you have some wiggle room there as well. After 35 days, Windows Update will install any pending updates.

**Delivery optimization.** By default, Windows Update uses peer-to-peer capabilities to allow PCs on your home network to deliver software updates to each other over that network, reducing your Internet bandwidth usage. But you can *also* enable this capability with other PCs over the Internet, which might help Microsoft but could result in *increased* Internet bandwidth for you. So, we recommend leaving it configured as-is.

## Shutdown, Restart, Sleep, Lock and Sign-Off

Windows supports powerful power management functionality that helps your PC run as efficiently as possible whether you're using a desktop PC, always-connected desktop PC or laptop, tablet, 2-in-1, or other portable PC. But every once in a while, you may need to shut down or restart your PC, or even put it to sleep. You can do so most easily via Start.

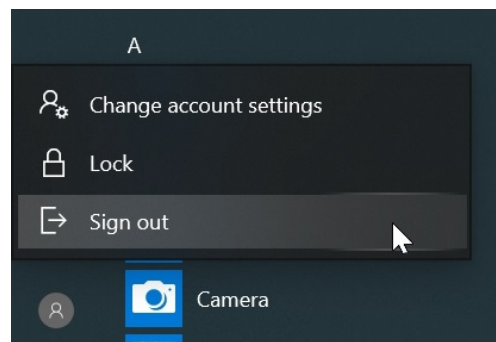
To shut down or restart your PC, or manually enable a Sleep or (if available) Hibernate mode, select the Power button in the bottom-left of Start.



The power management options you see here will vary by PC.

To sign-out of Windows, lock the PC, or sign-in as another user, select your user account name or picture at the bottom-left of Start. Then, choose the appropriate option.



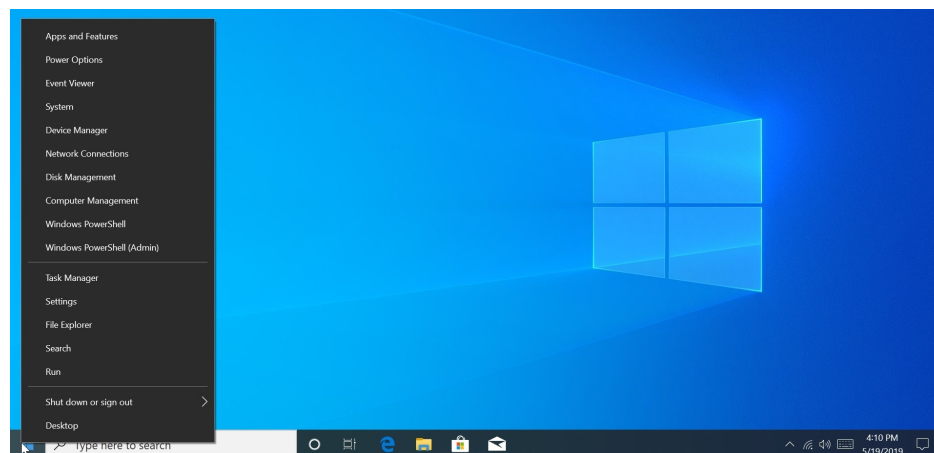


You can also perform some of these actions from the Quick Access menu, as described in the next section.

## Quick Access: A menu for power users

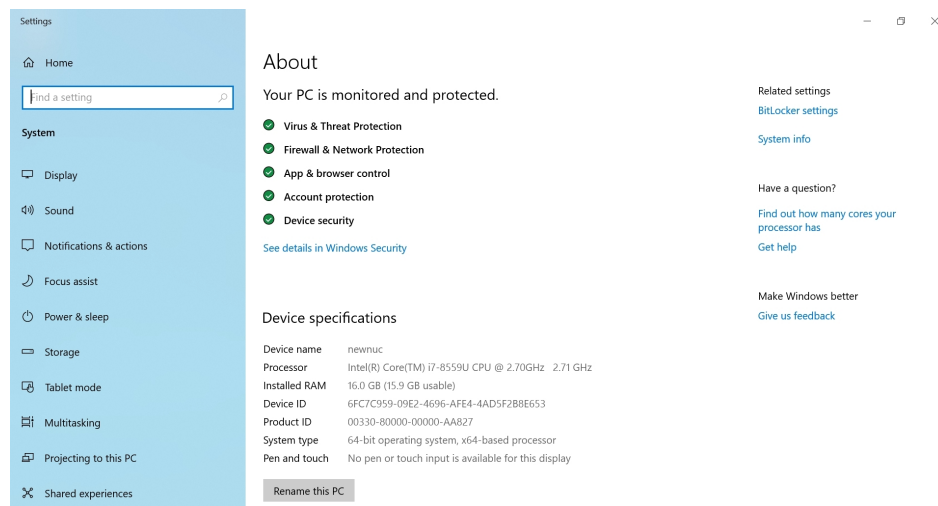
The Quick Access menu in Windows works like a hidden power user menu. It provides handy access to advanced legacy system tools like Device Manager, Disk Management, and Power Options.

To display the Quick Access menu, type WINKEY + X from anywhere in Windows. Or, right-click the Start button.



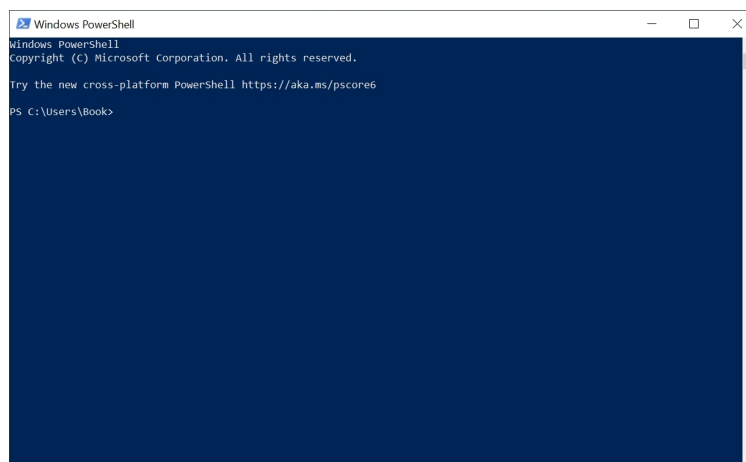
Many of these tools are esoteric and even old-fashioned and will be of little use to most users. But a few have broader appeal. These include:

**System.** System settings provides basic information about your PC and whether its security features are up-to-date.



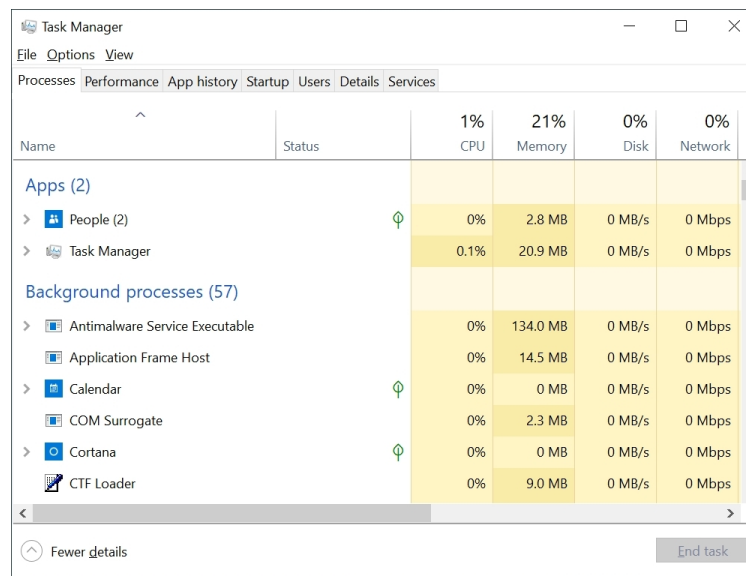
**Windows Command Prompt** and **Windows Command Prompt (Admin)**. Available in Windows 10 Home only, these options provide access to the classic Windows command line interface.

**Windows PowerShell** and **Windows PowerShell (Admin)**. Available in Windows 10 Pro, these options provide access to the advanced Windows shell and scripting environment.

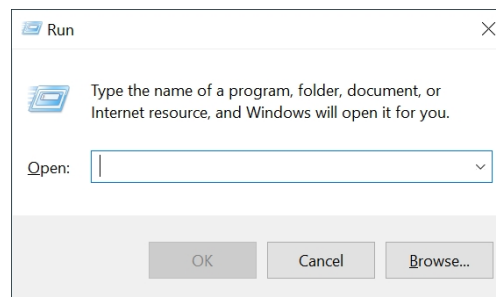


Windows 10 Pro users who would rather access the classic Command Prompt can do so by navigating to Settings > Personalization > Taskbar and disabling the option titled “Replace Command Prompt with Windows PowerShell in the menu when I right-click the Start button or press Windows key + X.”

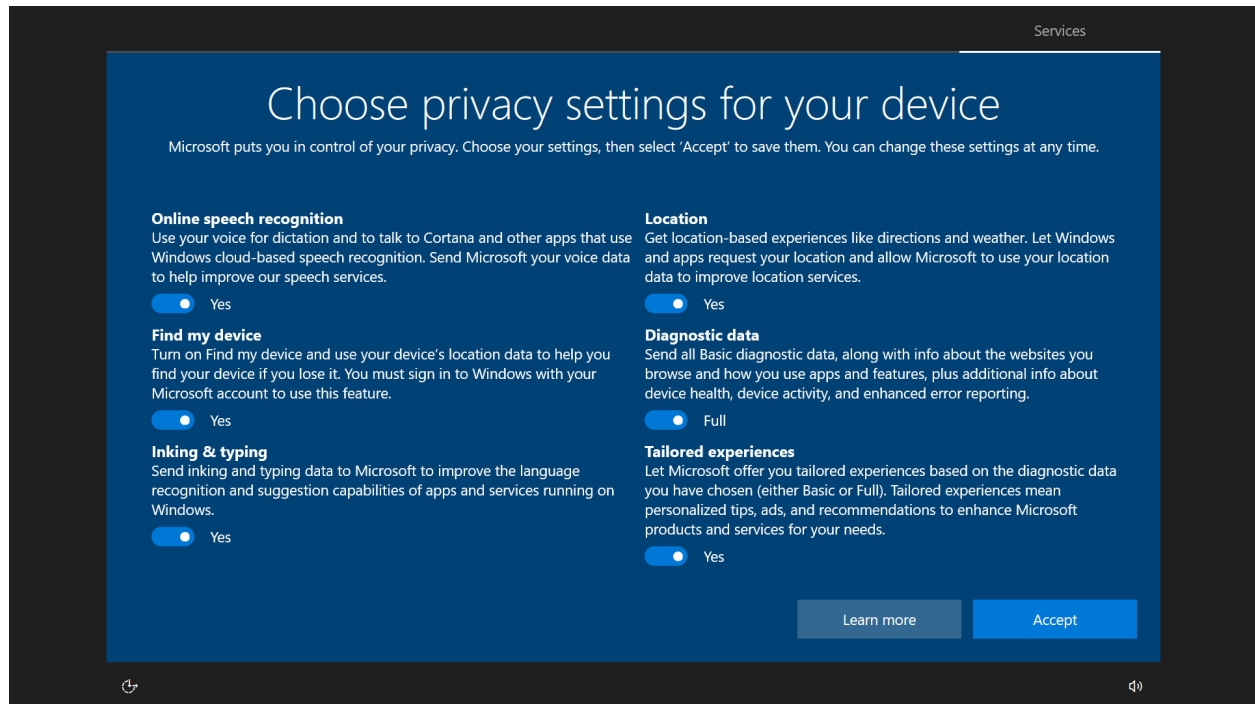
**Task Manager.** This interface has improved dramatically since Windows 7 and it now provides access to very useful tools like Performance, App history, Startup, and other tools in addition to task management.



**Run.** In the days before Start search, the Run dialog (WINKEY + R) was a neat little secret in Windows that was made only slightly less valuable by the fact that you needed to know an application's process name (e.g. regedit for the Registry Editor) to run it from here.



# Install Windows 10



To install Windows 10, you must interact with a software program called Windows Setup. There are a variety of circumstances in which you might encounter this wizard-based application, but the most common by far is that you've acquired a new computer and are setting it up for the first time. So that's the initial focus of this chapter as well.

However, there are other less common scenarios in which you may need to run Windows Setup and install Windows 10. And we cover some of them in this book as well.

These scenarios include:

- **You build your own PC or wish to replace a Windows version on an existing PC.** Here, you will obtain Windows 10 Setup media and use it to perform a clean install of Windows 10.



We discuss both of these topics in the “Power user” sections later in this chapter.

- **You want to upgrade from Windows 10 Home to Windows 10 Pro.** Windows 10 lets you upgrade in-place from one Windows 10 product edition to another in a variety of ways.



We cover this circumstance later in this chapter.

**You have an existing PC and wish to restore Windows 10 to its factory-fresh initial state.** In this case, you can and should use Microsoft's recovery tools.



The Microsoft recovery tools are covered in the System Recovery chapter.

- **You want to upgrade from Windows 7 or 8.x to Windows 10 on an existing PC.** Here, you will obtain Windows 10 Setup media and use it to upgrade your existing Windows version to Windows 10.



We do not explicitly cover upgrading from Windows 7 or 8.1 because any PC that came with these systems is too old and out-of-date to run Windows 10 effectively.

## Initial Setup: The Out-Of-Box Experience

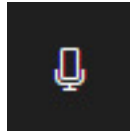
When you purchase a new PC and turn it on for the first time, Windows Setup appears. More specifically, you're seeing the second phase of Windows Setup, called the Out-of-Box Experience, or OOBE; your PC maker completed the initial offline phase of Windows 10 Setup for you.



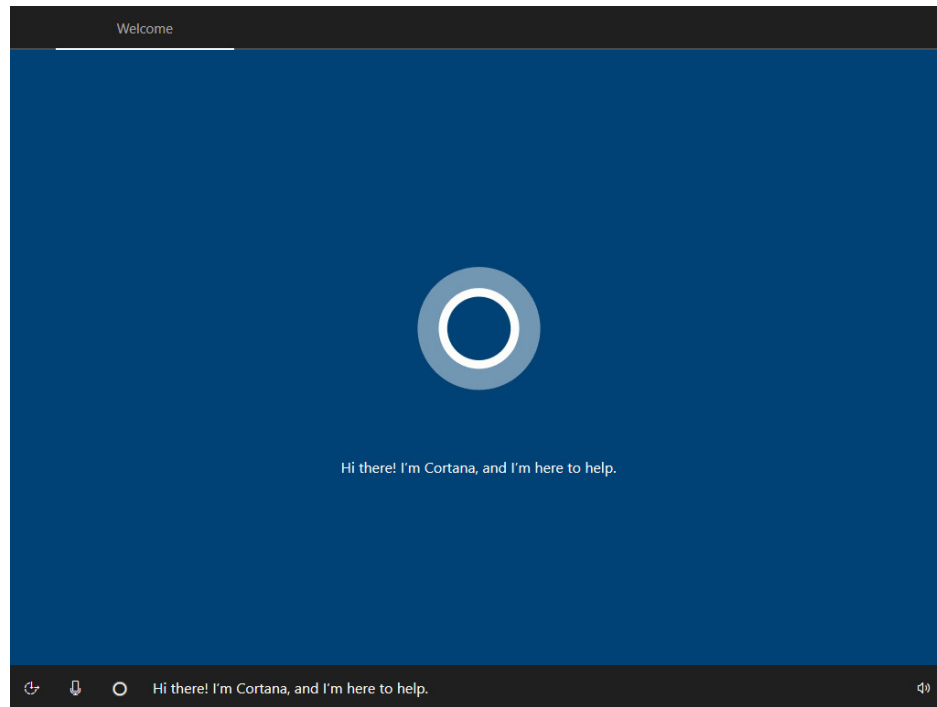
Power users who clean install Windows 10 using their own Setup media will need to deal with that initial offline phase of Windows 10 Setup too. That topic is discussed later in the chapter.



If you are installing Windows 10 Home, we strongly recommend finding the volume controls on your PC before turning on the computer. In a misplaced attempt to accommodate those with vision impairments, Microsoft enables voice control for its Cortana digital personal assistant in Windows Setup and it is *loud*. You can turn off Cortana's annoying voice-over during Setup by selecting the small microphone icon that appears at the bottom left of the next screen.

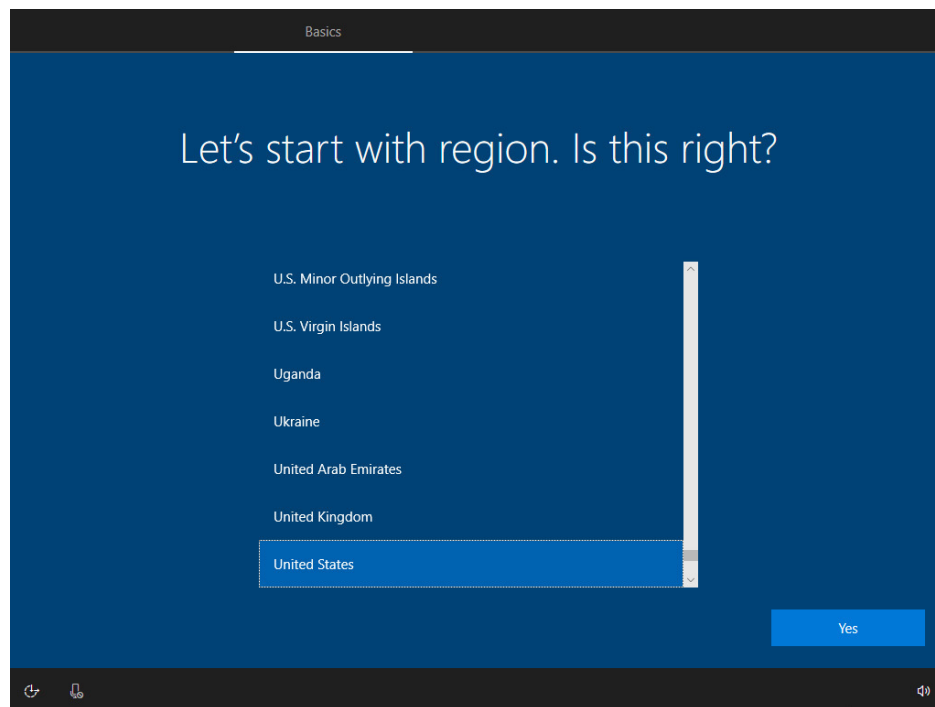


Protect your eardrums: It's Cortana.



The OOBE generally follows these steps:

**Let's start with region. Is this right?** Windows Setup will present what it believes to be your correct region—like “United States”—but if that's not correct, you can change it here.



**Is this the right keyboard layout?** As with the region, Setup presents what it believes to be the correct keyboard layout (“US” is correct for the United States.)

**Want to add a second keyboard layout?** In this step, Setup prompts you to install a second keyboard layout. This can be useful if you are bilingual or perhaps have special needs.



Most people should simply choose Skip.

**Let's connect you to a network.** If your PC uses a Wi-Fi networking interface, you can connect to your Wi-Fi network here before continuing with Setup.



Those with wired Ethernet connections will not see this step.

**Windows 10 license agreement.** The Microsoft License Terms for Windows 10 basically describes that you have no rights and that if you do have any issues, the agreement is between you and the PC maker, not Microsoft anyway. It's displayed only for legal reasons and can be ignored but not skipped.

**How would you like to set up?** With Windows 10 Pro only, you will be asked to choose between “Set up for personal use” and “Set up for an organization.” Choose the former if you are installing Windows 10 Pro for personal use and/or will sign-in with a Microsoft account or a personal account.



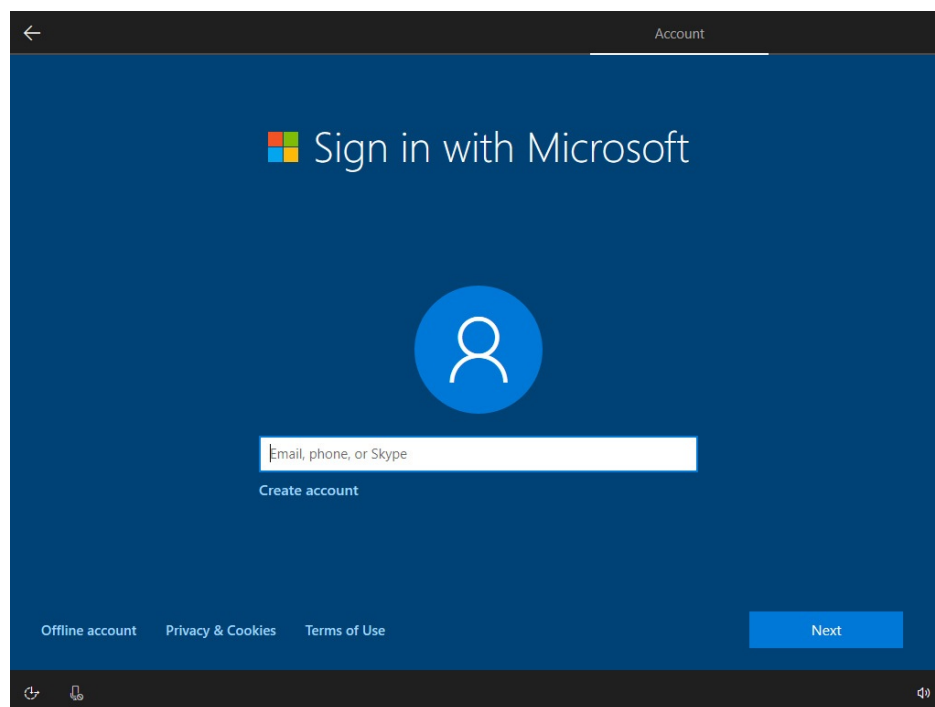


In other words, you will not see this screen if you are installing Windows 10 Home.

**Sign in with Microsoft.** Here, Microsoft would prompts you to sign-in to your Microsoft account, though you can optionally choose a so-called “offline account” (really, a local user account) by selecting that link instead. If you are configuring a new PC, using your Microsoft account is the way to go.



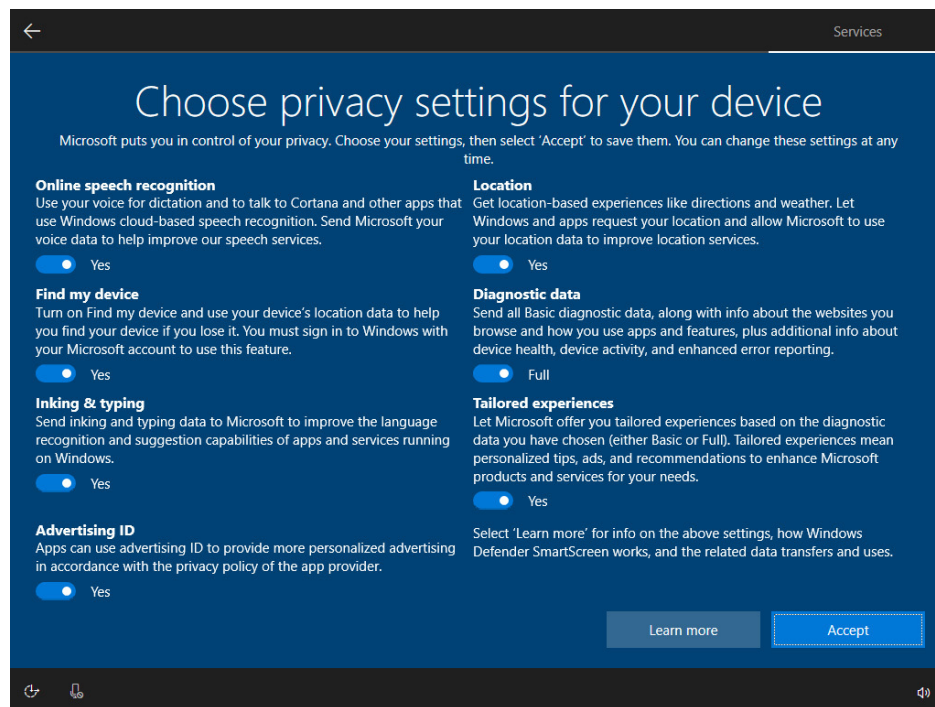
Power users may prefer to choose an offline account and then switch to a Microsoft or work account later. We discuss this topic in the “Power user: Clean install Windows 10” section later in this chapter.



**Choose privacy settings for your device.** Here, Setup prompts you to configure several settings related to privacy. Frankly, this is a big topic, and you can—and perhaps should—examine these and other privacy settings in Windows 10 more deeply than is possible here.



We recommend not making any changes to the options you see here because Microsoft is not asking for anything particularly egregious and will use your anonymous usage data to improve Windows for everyone.

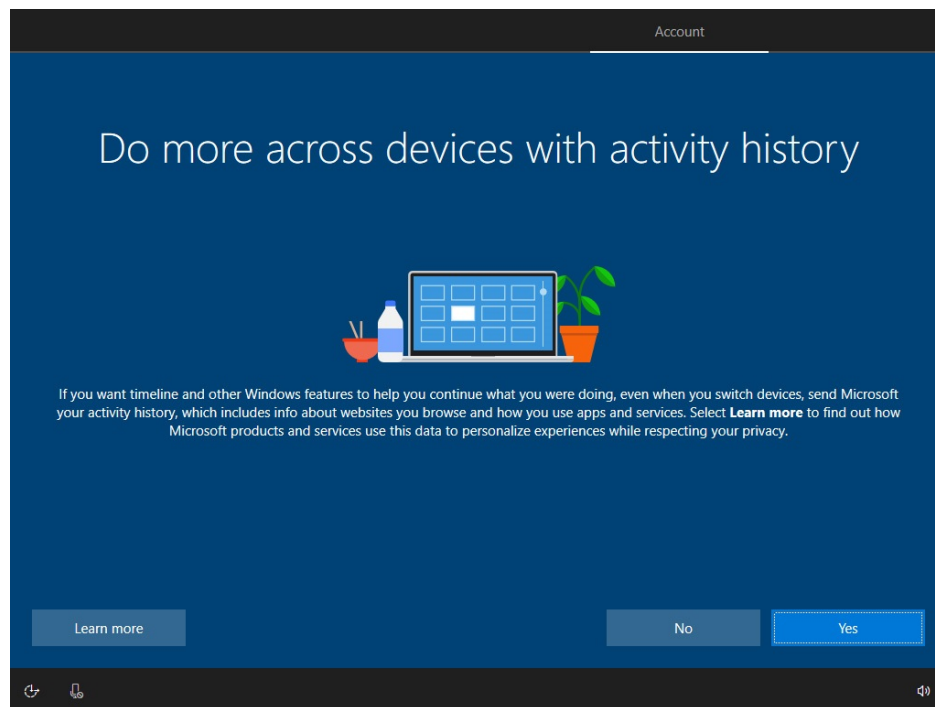


Not convinced? We explain how to fully configure Windows 10's privacy features in the Personalize chapter.

**Do more across devices with activity history.** Windows 10 includes a feature called Timeline that helps you see what you were working on previously so that you can continue with that work later. If you select “Yes” here, Timeline will be configured to work across devices, meaning that you will see your activity on your other PCs and, possibly, your smartphone too. (That latter capability requires you to be using certain Microsoft apps on your phone.)



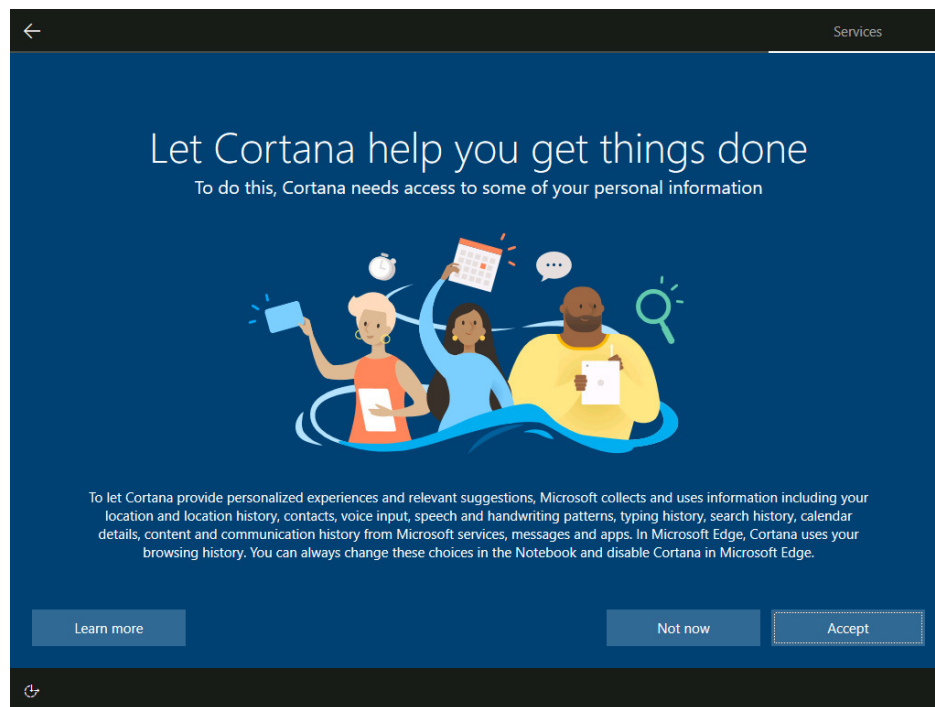
We recommend selecting “No” here for now, since most people will never use Timeline and this feature can be enabled easily enough at any time in the future.



**Let Cortana help you get things done.** Here, you are choosing whether to enable Cortana capabilities that require data gathering.

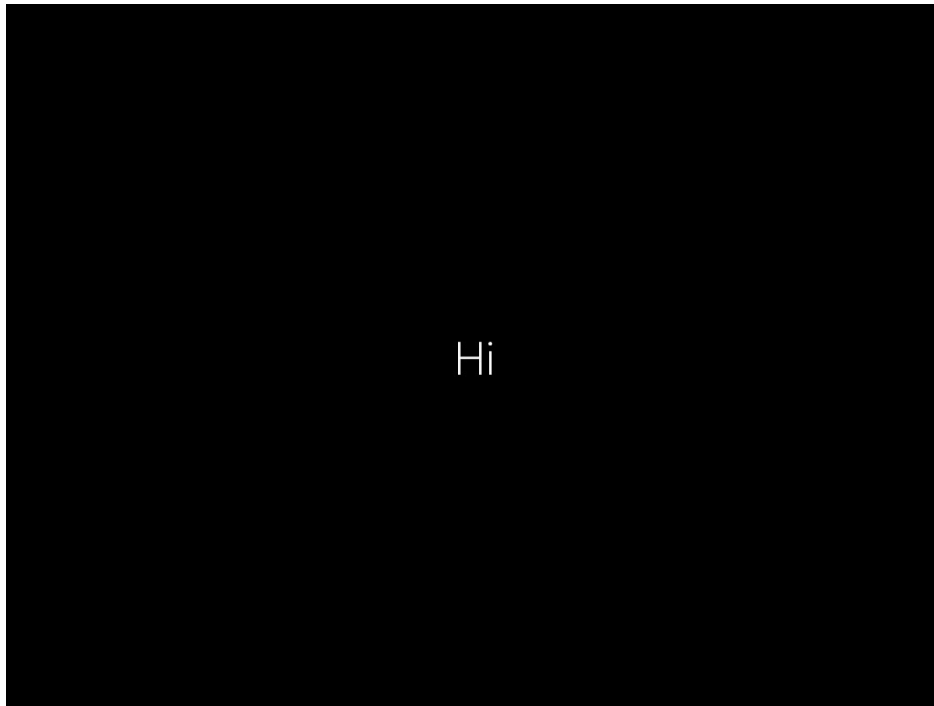


We recommend selecting “No,” as few Windows 10 users want or need to use Cortana. But you can enable this functionality later easily enough.



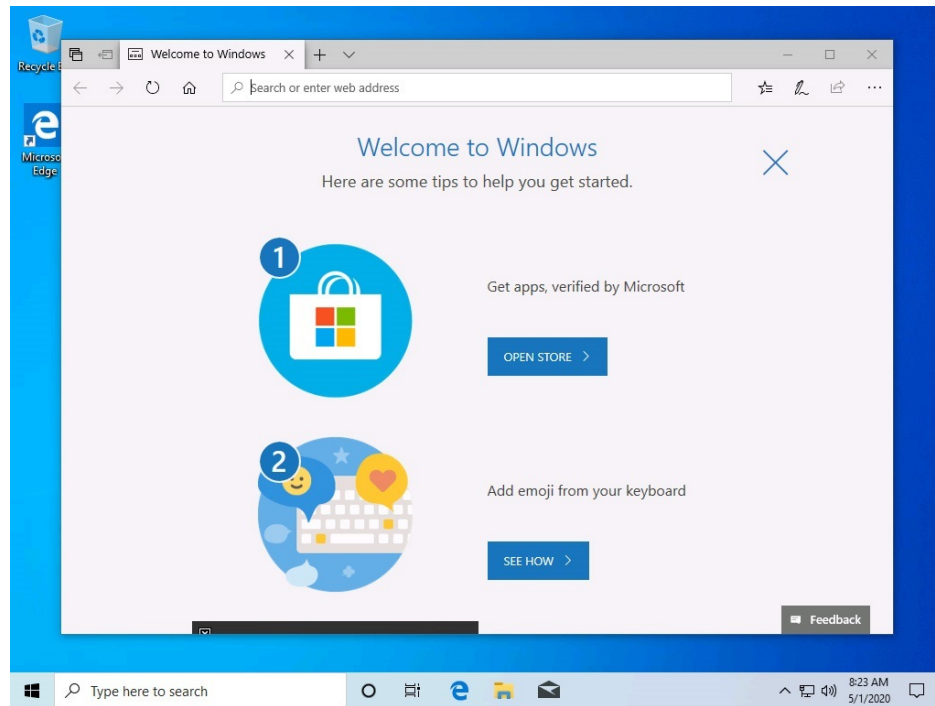
**PC maker customizations.** Some PC makers will add one or more screens here so that you can register your purchase and perhaps sign-in to an account associated with that company.

**Hi.** Windows 10 will now install any pending system updates and start installing some apps during a series of color-animated screens that say things like “Hi,” “We’re getting everything ready for you,” “This might take several minutes,” “Leave everything to us,” and the like.



After this, Windows 10 will display your new desktop. You will see familiar elements here: The desktop, Start button, and taskbar with a handful of pre-configured application shortcuts—Microsoft Edge, File Explorer, Microsoft Store, and Mail—plus a notification area with a clock.

Some elements are new to Windows 10, of course. The Windows 10 taskbar includes a Windows Search box, a Cortana button, and a Task View button to the right of the Start button, for example. But overall, the system should be generally familiar if you were previously using Windows 7 or 8.x, while still feeling fresh and updated.



You might see some other items here too, including additional taskbar or desktop items that were added by your PC maker.

## Post-Setup tasks

Next, you should make sure that everything is working properly and prepare your PC for the future. Here are a few post-install tasks to perform.

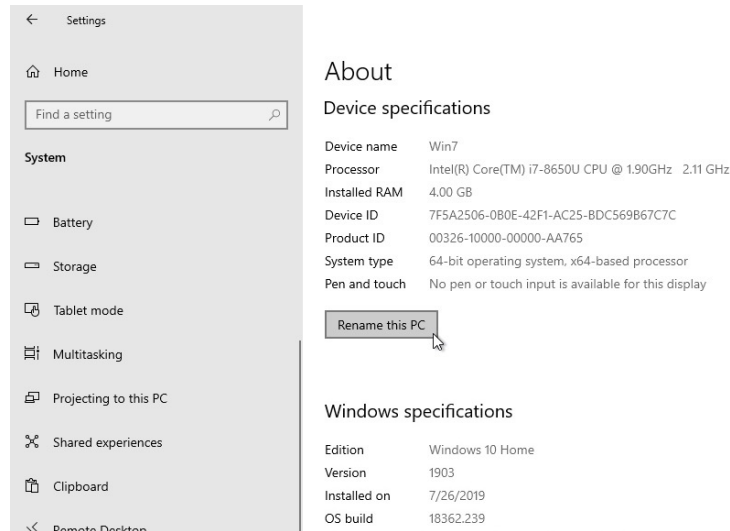


You should try to perform these tasks in the listed order, and reboot as directed before continuing.

**Lower the volume.** Microsoft inexplicably configures Windows 10 to output sound at a very high volume, which is why Cortana is so annoying during a clean install. If you didn't already do so, be sure to lower the system volume now using the Volume icon in the system tray.

**Check your date and time settings.** Windows 10 will try to automatically detect your location and then set the time and date accordingly. But doesn't always work, in my experience, and the system will often default to Pacific Time (where Microsoft's headquarters are) or to whatever time zone your PC maker may have configured. If the time and/or date are not correct, right-click the date and time display in the notification area and then select "Adjust date/time" from the pop-up menu that appears. You can make the necessary changes in the Date & Time settings window that appears.

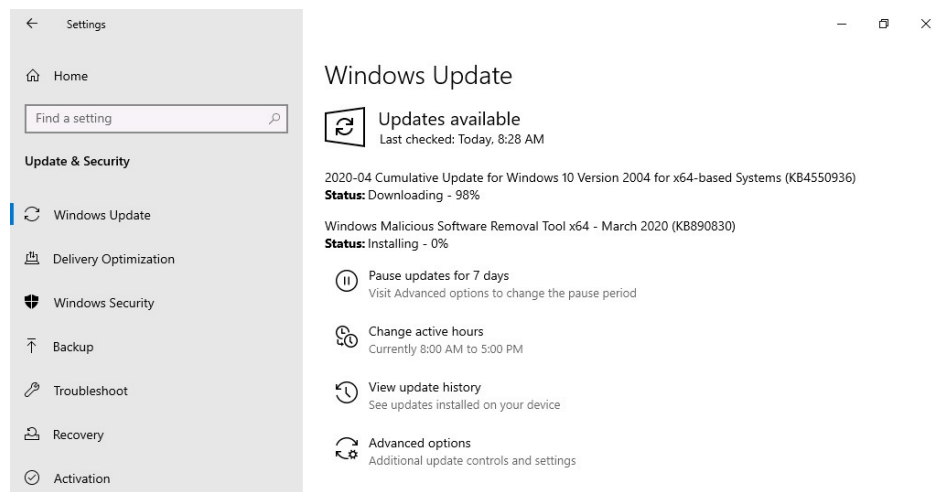
**Rename your PC.** Windows Setup creates a nonsense name for the PC instead of letting you choose one that is meaningful to you. This is important because you will see your PC's name referenced by OneDrive and other Microsoft services on the web and elsewhere. So you should change it immediately: Right-click on the Start button (or type WINKEY + X) to display the Quick Access menu, and then choose "System" from the list. In the System settings window that appears, select the "Rename this PC" button and then enter a name that makes sense to you—perhaps *Pauls-PC*, *Laptop*, or whatever—and click Enter. You'll be told you have to reboot the PC. Do so.



Sorry, you can't use spaces in the PC name. Yes, we know it's the 21st century.

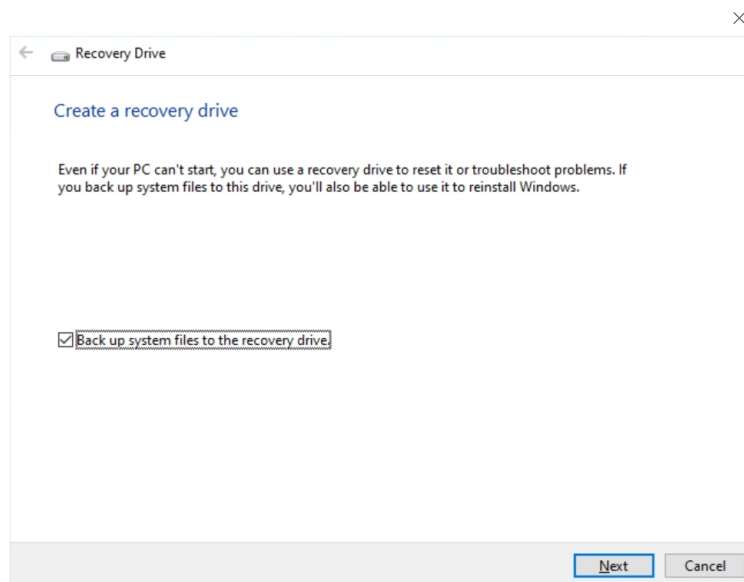
**Use Windows Update to get the PC up-to-date.** After that reboot is complete, be sure to check Windows Update—found in Settings (WINKEY + I) > Update & security > Windows Update—for any updates, rebooting as required and rechecking until there are no more updates to install. This is a much faster process with Windows 10 than it was with previous Windows versions thanks to a new system of cumulative monthly updates.





**Run your PC maker's support/driver update application.** While a handful of PC makers utilize only Windows Setup for software updates, most still provide a custom application—Dell Update, HP Support Assistant, Lenovo Vantage, or similar—for delivering software and driver updates. After Windows Update is completely up-to-date, find this application and install any updates your PC maker provides.

**Create a recovery drive (Optional).** While Windows 10 comes with various recovery tools, it's possible that the disk on which you installed the OS could experience a problem, making the built-in tools unavailable. So you may want to create a USB-based recovery drive, which can be used to boot your PC and fix problems, including getting Windows 10 reinstalled if needed. The easiest way to find this tool is with Start search: Open the Start menu and type *recovery drive*. In the wizard that appears, be sure to leave the option "Back up system files to the recovery drive" selected.





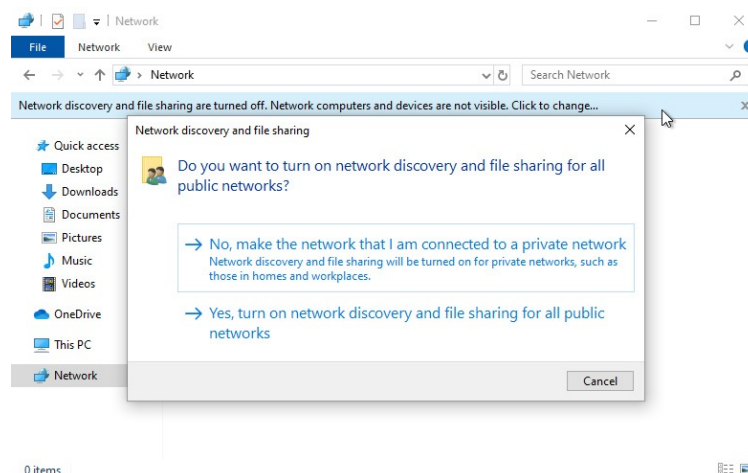
We discuss the recovery drive a bit more in the System Recovery chapter.

**Configure OneDrive for offline use (Optional).** Your Microsoft account comes with OneDrive storage, and this cloud-based service will be configured for access via File Explorer when you first sign-in. That said, you can also manually choose which folders to make available for offline use by opening File Explorer and choosing OneDrive in the navigation pane.



This topic is covered in much more detail in the *Files and Storage* chapter.

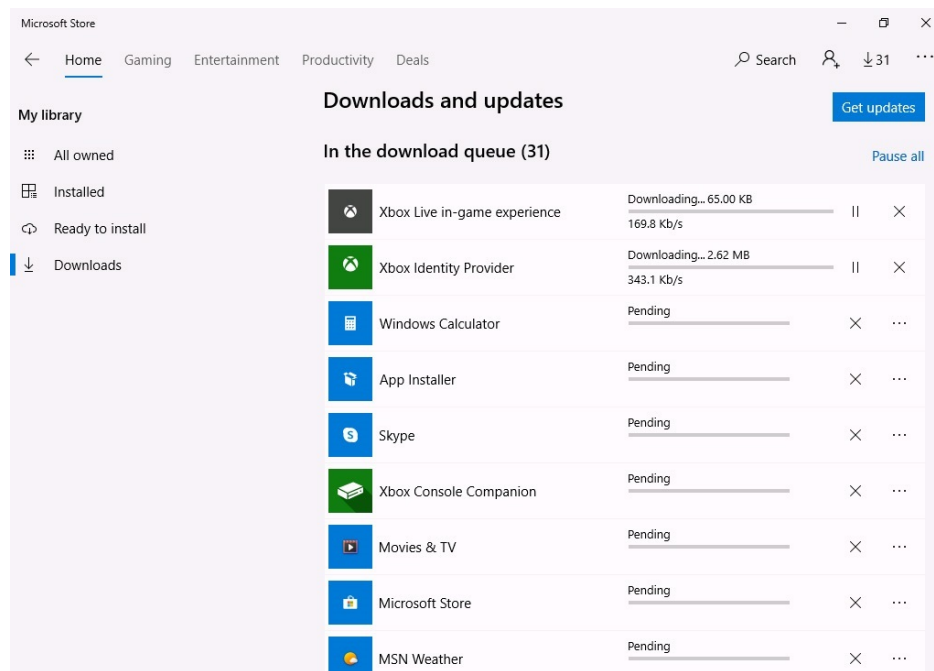
**Make sure your network is configured correctly (Optional).** If you have more than one PC connected to your home network and would like to share files and printers between them, you need to configure your PC to be “visible” on the network. To do so, open File Explorer (WINKEY + E) and select Network in the navigation pane on the left. In the Network view, click OK in the pop-up warning that appears and explains that network discovering is turned off. Then, select the light blue message below the toolbar which reads, “Network discovery and file sharing are turned off. Network computers and devices are not visible. Click to change...” Select “Turn on network discovery and file sharing” from the pop-up menu that appears. Then choose “No, make the network that I am connected to a private network” in the resulting window.



Check out the Networking chapter for more information about configuring your PC to work with different types of networks.

**Update the built-in Microsoft Store apps.** While Windows 10 will automatically update its built-in Store apps over time—and will do so for any apps you later install—it’s likely some are out-of-date even though you just installed Windows. So open the Microsoft Store app, select the “See more”

(“...”) button, and then select “Downloads and updates”. In the Downloads and updates view that appears, select the Get updates button.



**Install the desktop applications you need.** Windows doesn’t stand alone: Most people have a wide selection of desktop applications—Microsoft Office, Adobe Photoshop, Apple iTunes, and so on—that they use and rely on every day. And now is the time to start visiting the websites for these applications, and downloading and installing them.

**Personalize Windows.** Windows 10 offers many customization capabilities, so be sure to check out the Personalization section in Settings (WINKEY + I).



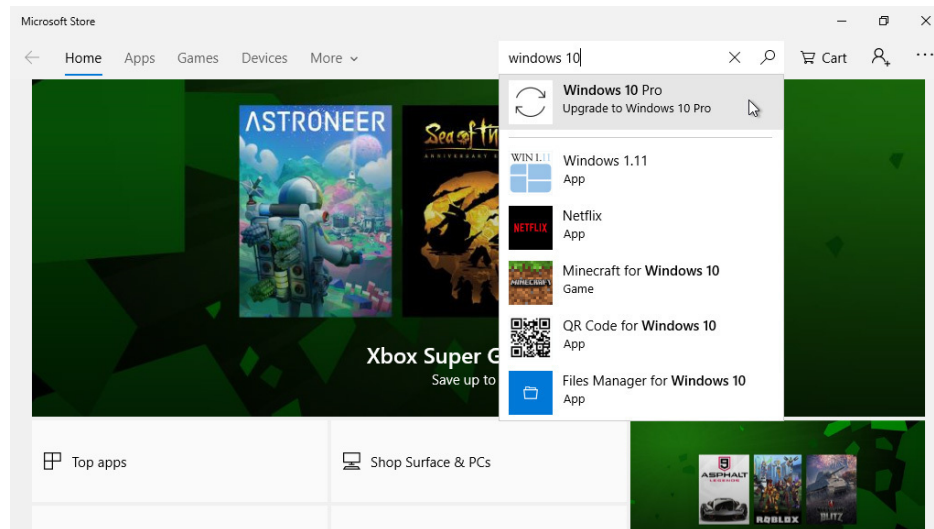
Read the *Personalize* chapter next to learn more.

## Upgrade from one Windows 10 product edition to another

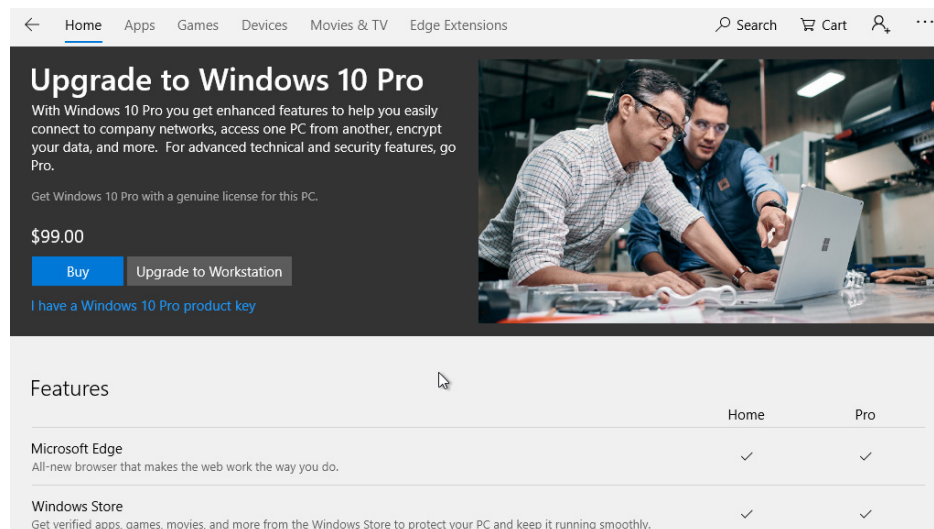
Windows 10 supports a variety of in-place product edition upgrades. The most common is the upgrade from Windows 10 Home to Windows 10 Pro. But Windows 10 Pro users can also upgrade to Windows 10 Pro for Workstations, an advanced Windows version that supports four processors and up to 6 TB of RAM.

Doing so isn’t free and it isn’t cheap: The price varies according to the upgrade type and can range from \$100 to \$125 in the United States.

To upgrade to a different Windows 10 product edition, open the Microsoft Store app and search for “Windows 10.” In the drop-down menu that appears as you type in the Search box, you will see the applicable product edition to which you can upgrade.



Select the correct item in the search results. The Store navigates to a page that explains the benefits of upgrading and how much it will cost.



If you're ready to buy—and then perform the upgrade—you can do so from here. It's a fast process but it does require a reboot.

## Power user: Clean install Windows 10

In certain circumstances, you may find that you need to clean install Windows 10 using USB-based Setup media that you created.

## Get ready first

Before you install Windows 10, you should consider the following.

**Determine whether you need a product key.** If you purchased Windows 10 at retail, or electronically from Microsoft, you will have a 25-digit product key that can be used to activate Windows 10. But if you previously upgraded a genuine version of Windows 7 or Windows 8.x to Windows 10 on that PC, no product key is necessary going forward: Windows 10 should activate automatically if you later choose to clean install the OS on the same PC again.

**Completely backup your PC before performing an install (Optional).** If you intend to clean install Windows 10 on a PC that already has an existing OS, you should consider backing up the PC first just in case something goes wrong with the Windows 10 install.

**Create a system repair disk (Optional).** If you do back up your install of a previous Windows version, you will also want to create a system repair disk—which can be USB- or disc-based—that can be used to boot your PC and restore it using the system image backup you made.



The Windows 10 Setup media can also be used as a system repair disk, though of course the tools on that disk are Windows 10-based and can't be used with your previous Windows version.

**Separately back up your important data (Optional).** When you install Windows 10, you are in most cases also deleting data that may be on that PC's disk(s) as well. There are exceptions, but it's better to be safe than sorry. So if possible, you should also copy of your important personal data—documents, music and video files, photos, whatever—to a location that is physically separate from the PC, like a removable hard drive or network share.

**Decide whether to use a Microsoft account.** Windows Setup pressures you to sign-in to the PC with a Microsoft account. Doing so is a convenience, as Windows will automatically pass-through your sign-in credentials to apps like Mail, Calendar, and People that are bundled with the operating system. And we recommend that most user do so when setting up a new PC. But this is optional and you can still create a local user account, as you did in previous Windows versions. Then, you can sign-in to these apps individually with a Microsoft account if you want. Windows 10 also lets you switch between the two account types, so you can't switch the local account to a Microsoft account later if you'd like.



You can learn how to convert a local user account to a Microsoft account in the Accounts chapter.

**Make sure you're using a 64-bit version of Windows 10.** Microsoft still offers 32-bit and 64-bit versions of Windows 10 Home and Windows 10 Pro for sale to the public for backward compatibility reasons. But you want the 64-bit version if there's a choice.

**Make sure you know how to boot your PC using a USB flash drive.** In the next section, you'll learn how to create the Windows 10 Setup media, but you will need to know how to boot your PC using that USB flash drive as well. This process varies from PC to PC, of course. Some PCs will provide a textual hint during initial boot, but for others you will need to consult with your PC maker's documentation or support website.

## Create Windows 10 setup media

Before you can install or upgrade to Windows 10, you need to have the Windows Setup program and associated files available. This typically takes the form of what Microsoft calls the *Windows 10 Setup media*, which is a USB stick to which the Windows 10 Setup files have been properly copied and configured.

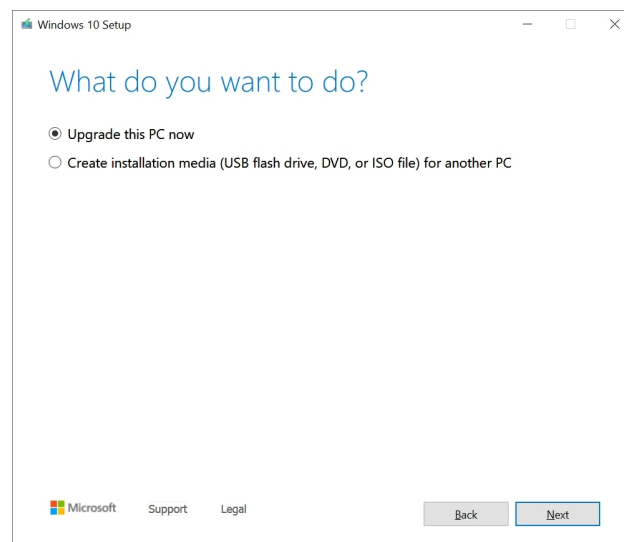
You can create the Setup media using a handy Microsoft utility called the Media Creation Tool. This tool will download the latest version of the Windows 10 Setup files to your PC and then create a bootable USB drive that can be used to clean install (or upgrade to) Windows 10.



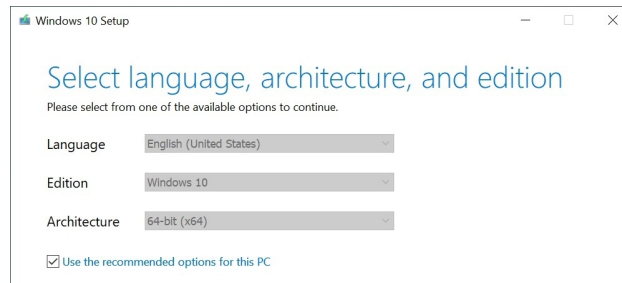
To create the Windows 10 Setup media, you need a USB flash drive with at least 8 GB of storage.

To get started, open your favorite web browser, [navigate to the Download Windows 10 page on the Microsoft website](#) and select the “Download tool now” button under Create Windows 10 installation media. Once this is downloaded, run the Media Creation Tool.

After accepting the software license terms, you're ready to start.



Select “Create installation media (USB flash drive, DVD, or ISO file) for another PC.” Then, select the Next button.

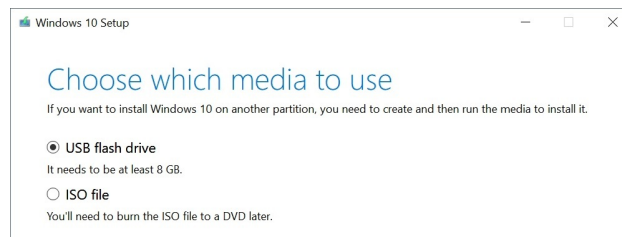


Here, the wizard automatically selects your language, product edition (Windows 10 Pro, perhaps), and architecture (64-bit or 32-bit) as determined by the current PC's configuration. But you should review those options by deselecting "Use the recommended options for this PC," especially if you intend to use this installer on a different PC.



The "Both" option under Architecture is interesting, as the resulting Setup disk will let you select between 32-bit and 64-bit versions of Setup during the install process. But this will also incur a much bigger download and require a larger capacity USB flash drive.

Once you've selected the right choices for your PC, select Next.



If you are going to create USB-based Setup media directly, which I recommend, insert a formatted USB flash drive into the PC and choose "USB flash drive." Then, click Next.



If your PC has a DVD drive, you will also see an option for DVD. We do not cover this antiquated technology in the book.

After selecting the flash drive from a list of compatible drives, the Windows Setup files will immediately begin downloading to your PC. And when that's done, the wizard will create the Setup media.





What about that other option, “ISO file”? This option lets you download the Windows 10 Setup media to an *ISO file*, which is an *image file* representation of a disk that you can then use later in Windows as if it were a physical disk. ISO files have many advantages, most of which are not pertinent to this process. For example, in Windows 10, you can double-click an ISO file to “mount” the disk image in File Explorer as if it were a physical disk, and then use it normally from there. You can use an ISO file to install Windows 10 in a *virtual machine* using Hyper-V, a Windows 10 Pro feature, or a third-party solution like [Oracle Virtual Box](#) or [Parallels Desktop](#). You can also burn this disk image to a DVD disc if you prefer that type of Setup media. Or, you can use a third party utility like [Rufus](#) to copy the ISO file to a USB flash drive, in essence duplicating the “USB flash drive” option in the Media Creation Tool. Whew.

## Run Windows Setup and install Windows 10

Windows 10 Setup is split into two major parts, an offline interactive setup sequence and the Out of Box Experience, or OOB. When you boot your PC with the Windows 10 Setup media, you will encounter both.

### Offline setup

The first phase of Windows Setup generally follows these steps:

**Windows Setup.** The initial screen will offer three options to customize: Language to install, Time and currency format, and Keyboard or input method. They should be set to the correct choices already, but it’s always a good idea to scan them before proceeding.

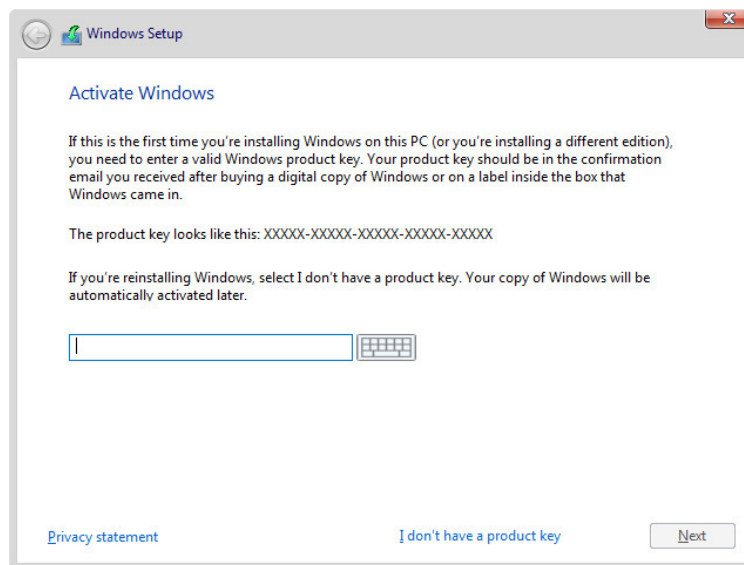


**Install now.** Here, you can choose between the prominent “Install now” link and a less obvious “Repair your computer link.” Choose “Install now.”

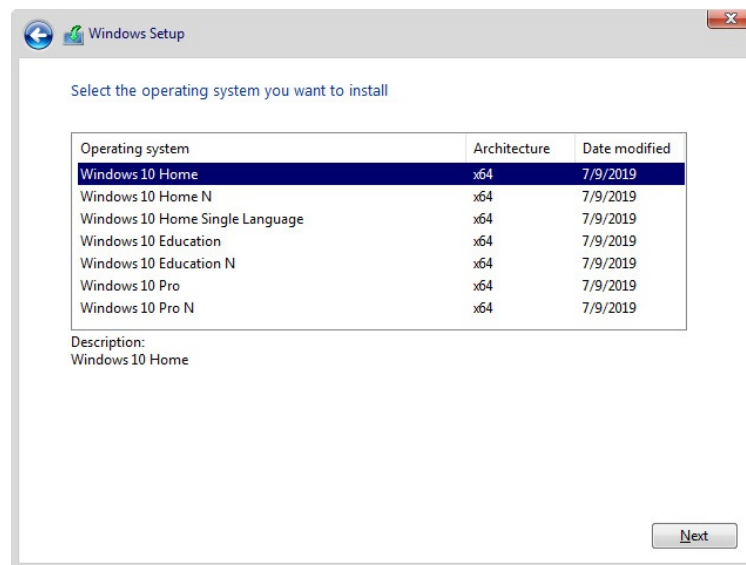


That latter choice boots your PC into the Windows Recovery Environment, which is covered in the System Recovery chapter.

**Activate Windows.** If you purchased Windows 10 from Microsoft or another retailer, you received a 25-character product key which can be used to activate the OS. You can enter that now if you like, but there's no need to do so. Just click the “I don't have a product key” link instead. You can always enter the product key later, and users who are performing a clean install after having previously acquired a free upgrade to Windows 10 will never need to do so anyway.



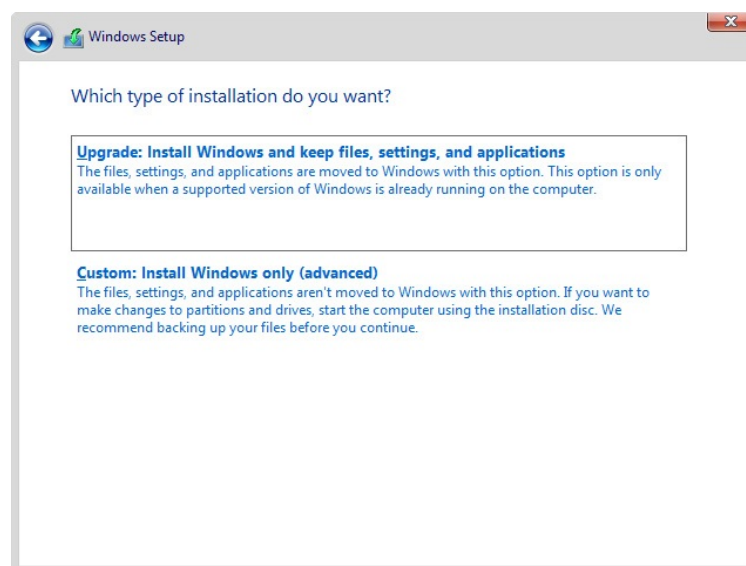
**Select the operating system you want to install.** If you didn't enter your product key and you created Setup media with the Media Creation tool, you will be prompted to choose between various Windows 10 product editions, including Windows 10 Home, Education, and Pro, and possibly others. Choose the correct product edition here.



Be sure to choose the product edition that matches your product key or you won't be able to activate it later.

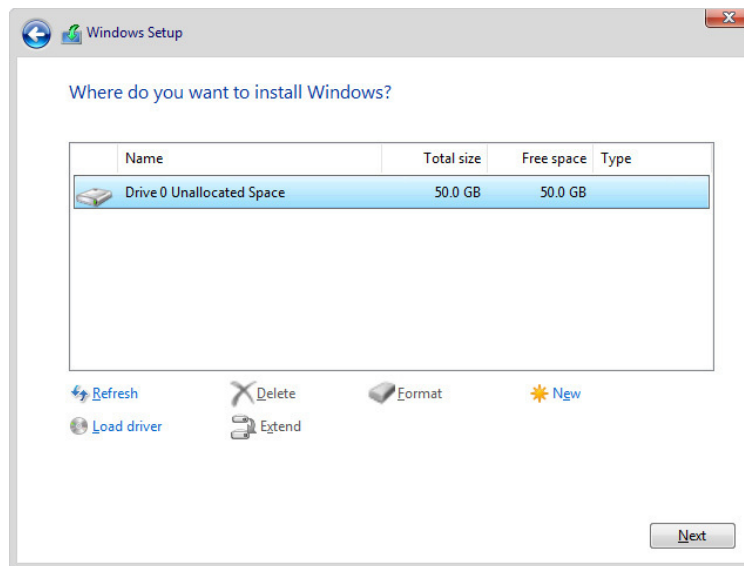
**Applicable notices and license terms.** You must agree to the terms of the Microsoft software license terms before you can proceed.

**Which type of installation do you want?** Here, you can choose between Upgrade and Custom install types, the latter of which is used to perform a clean install of Windows 10. Choose “Custom: Install Windows only (advanced).”



**Where do you want to install Windows?** Here, you choose the drive or disk partition on which you will install Windows 10. If your PC has a single drive, you should see only one drive (really,

partition) listed. Otherwise, use the Delete button to remove all of the partitions until only one item (“Drive 0 Unallocated Space”) appears in the list. Then, you can continue.

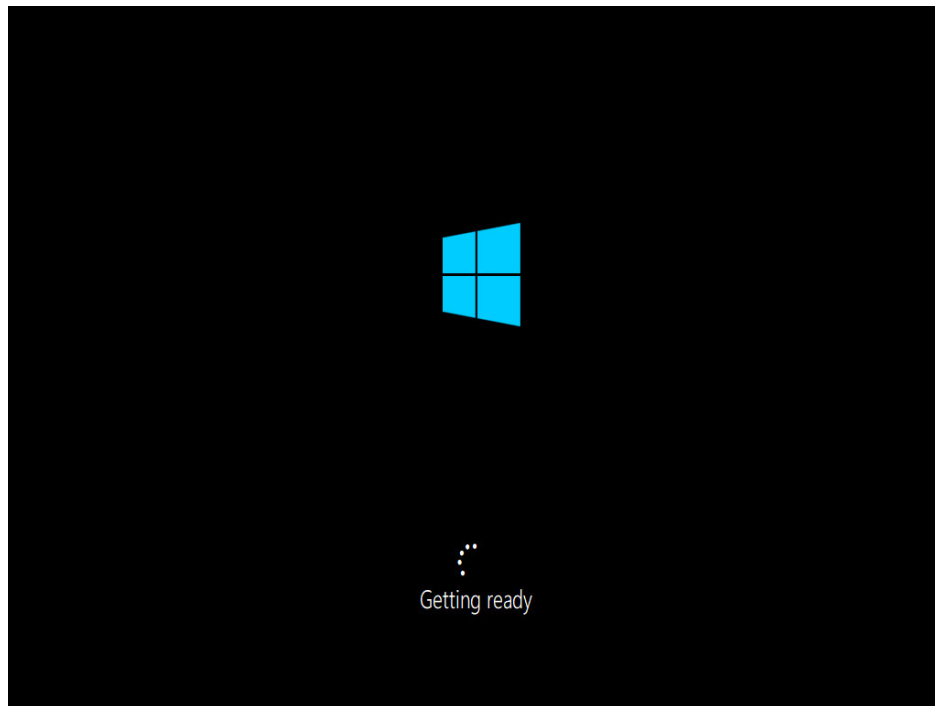


If this PC has multiple drives, be careful about installing Windows 10 to the correct drive. You did back up, right?

**Installing Windows.** Here, Setup copies over the files it needs to boot your PC and install Windows 10. When this process is complete, the PC will reboot.



**Getting ready.** After a reboot, Windows 10 Setup will configure the hardware devices in your PC. And then your PC will reboot again.



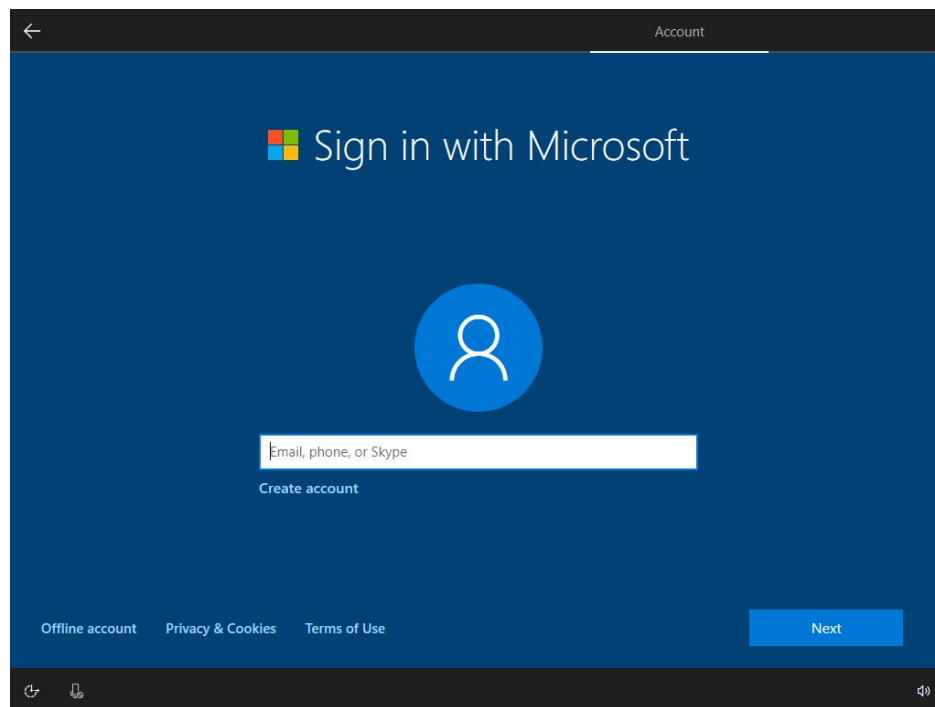
### Out-of-Box Experience (OOBE)

We cover the second phase of Windows Setup, called the Out-of-Box Experience, or OOBE, at the beginning of this chapter because it is the only part of Setup that most users will see. That is, the OOBE will be seen by all users, even those who acquire Windows 10 with a new PC purchase.

But there are a few steps to this process that are unique to those who are clean installing Windows 10, or deserve further consideration. They are:

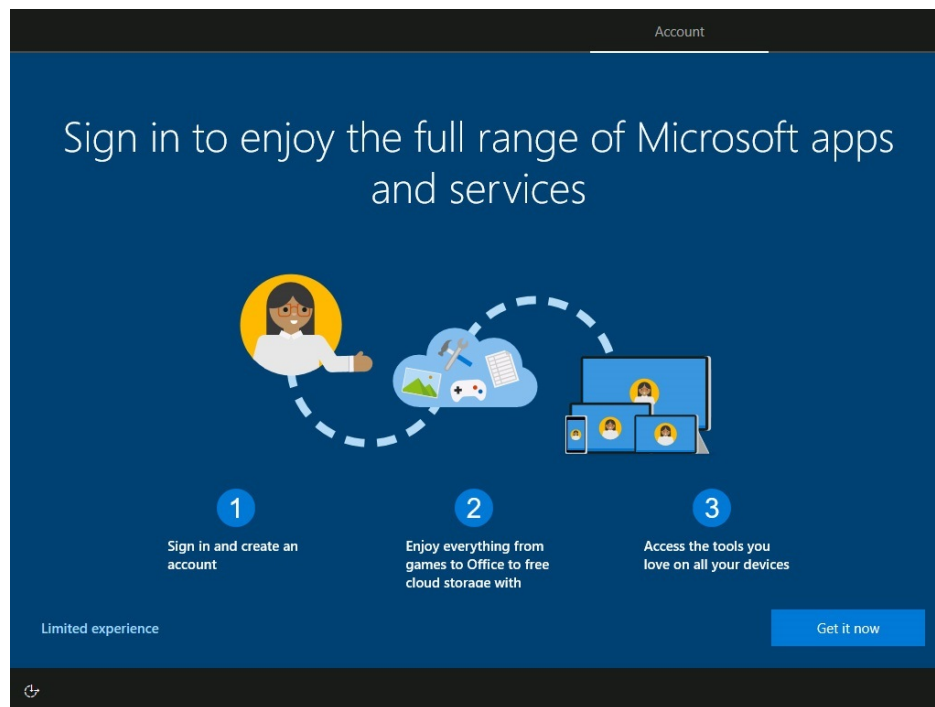
**Windows 10 license agreement.** This only appears on new PC installs. If you stepped through the offline Setup previous to the OOBE, you already agreed to the license terms.

**Sign in with Microsoft.** While most people setting up a new PC should simply sign-in with their Microsoft account, power users who clean-install Windows 10 may wish to use a local, or “offline,” account instead. To do so, select the “Offline account” link in the lower left.



Yes, you can do this even if you intend to use a Microsoft account. You can convert this so-called offline account to a Microsoft account later if you wish.

**Sign in with Microsoft instead?** Did we mention that Microsoft would *really* like you to sign-in to your Microsoft account? It's OK. Select the "No" button.



**Who’s going to use this PC?** Here, you should create a simply-named, one-word local user account—like *Paul*, and not *Paul Thurrott*—because Windows will use this account name as the name of your user folder in the file system, and it won’t create a folder name with spaces.

**Create a super memorable password.** Do *not* create a password now, super-memorable or otherwise, as you will be rebooting the PC several times after you finish Setup. Later, you will either sign-in to your Microsoft account—which will require you to use the password associated with that account—or you can create a password for the local account. Just select “Next.”

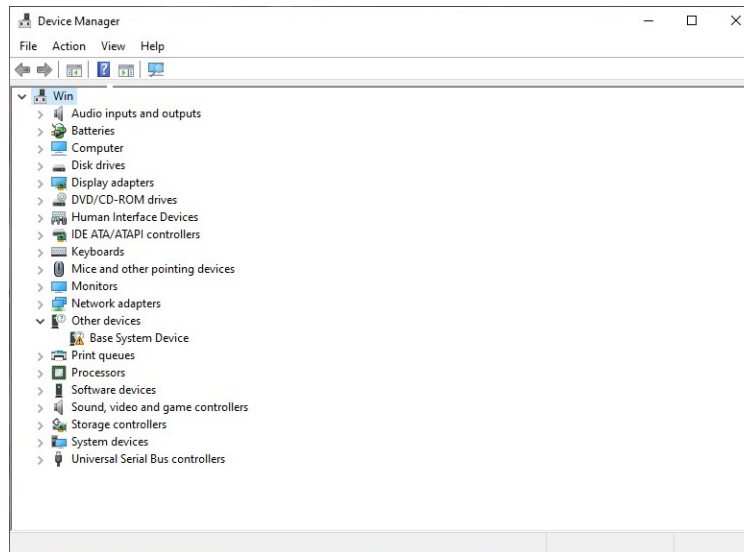
## More post-install tasks

In “Post-Setup tasks” earlier in the chapter, we described the steps you should take when you initially setup Windows 10 and then arrive at the desktop for the first. If you signed-in to the Windows using an offline account instead of a Microsoft account, there are a few additional tasks to consider.

They are:

**Check Device Manager.** After fully updating via Windows Update, you should run Device Manager (type WINKEY + X—or right-click the Start button—to display the Quick Access menu and then choose “Device Manager” from the list) and make sure all of your hardware devices are supported with working drivers. If you see any yellow exclamation points (called “bangs” in industry lingo), something is wrong.





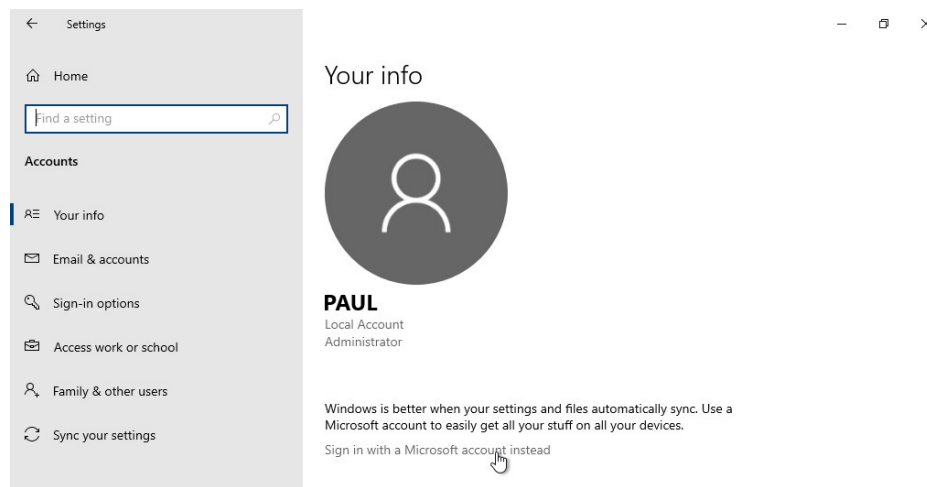
If possible, you should resolve driver issues using the support capabilities of your PC maker, which may provide a utility via its website that will scan your PC and look for missing or out-of-date drivers or, at the very least, offer manual driver downloads. The issue in the latter case is that it's not always clear which driver(s) are missing. To find out what a “banged” device really is—and thus get the correct driver—right-click it and choose “Update Driver Software” and then “Search automatically for updated driver software.” If that doesn't work, right-click the device and choose Properties. In the Properties window that appears, navigate to the Details tab and then choose Hardware Ids from the Property drop-down. Right-click the first item in the Value list and chose Copy. Then, search the web with that string. You will discover what the device is and then be able to find a driver install online, preferably from your PC maker.

**Activate Windows.** Once you're sure that Windows 10 is up and running correctly, you should check to see whether it has already activated automatically. To do so, navigate to Settings (WINKEY + I) > Update & security > Activation. If Windows needs to be activated, select “Change product key” and enter your 25-digit product key to activate.



If you had previously installed Windows 10 on this PC, it should activate automatically, meaning you won't need to do this.

**Sign-in with your Microsoft account (Optional).** Many users will want to sign-in to Windows with a Microsoft account, because doing so will sync settings between your PCs by default. This will also cause you to automatically sign-in to apps like Mail, Calendar, Xbox, Groove and others. You can do so by navigating to Settings (WINKEY + I) > Accounts > Your info and selecting “Sign in with a Microsoft account instead.” Then, follow the prompts.



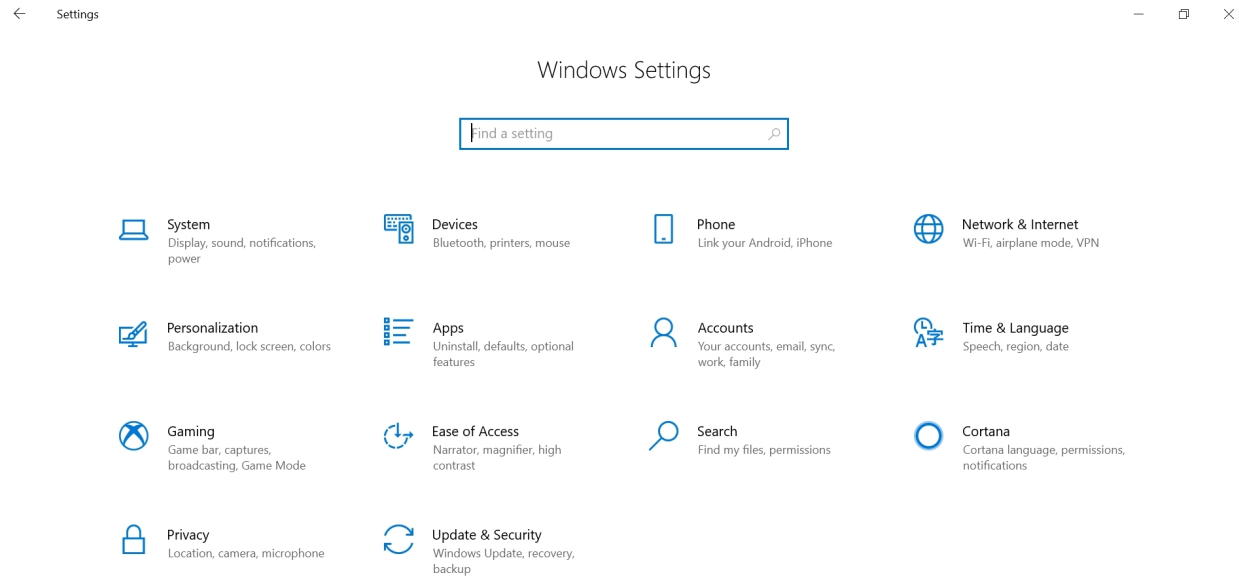
You will also be prompted to configure a PIN at this point since typing in your Microsoft account password every time you wake up the PC can be tedious. You should do so. And if your PC has a Windows Hello-compatible fingerprint reader or camera, you can configure that now in Settings > Accounts > Sign-in options as well.

**Configure OneDrive.** If you use Microsoft's OneDrive cloud storage service, and you didn't initially sign-in to Windows with a Microsoft account, you should sign-in to OneDrive now and configure it to sync whichever cloud-based folders and documents you would like to use on this PC. You can find the OneDrive icon—and start the sign-in process—in the system tray.



This topic is covered in more detail in the *Files and Storage* chapter.

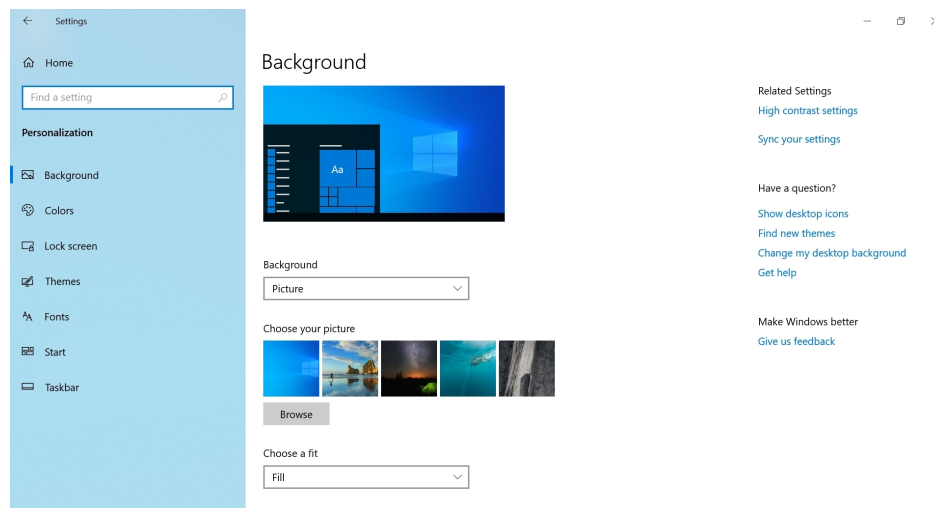
# Personalize



## Get to know the Settings app

Most of the personalization choices you make in Windows will occur in the Settings app. This app is readily available: You can launch it from the Settings gear in the left of the Start menu, from the apps list in Start, with Start search, or by typing WINKEY + I at any time.

Settings is arranged into several areas, such as System, Devices, Phone, and so on. Each of these areas provide their own pages with specific settings. For example, when you navigate to Personalization, you will see pages for Background, Color, Lock screen, Themes, Fonts, Start, and Taskbar.



Perhaps not surprisingly, much of this chapter involves this part of the Settings app.

## Eliminate the biggest annoyances first

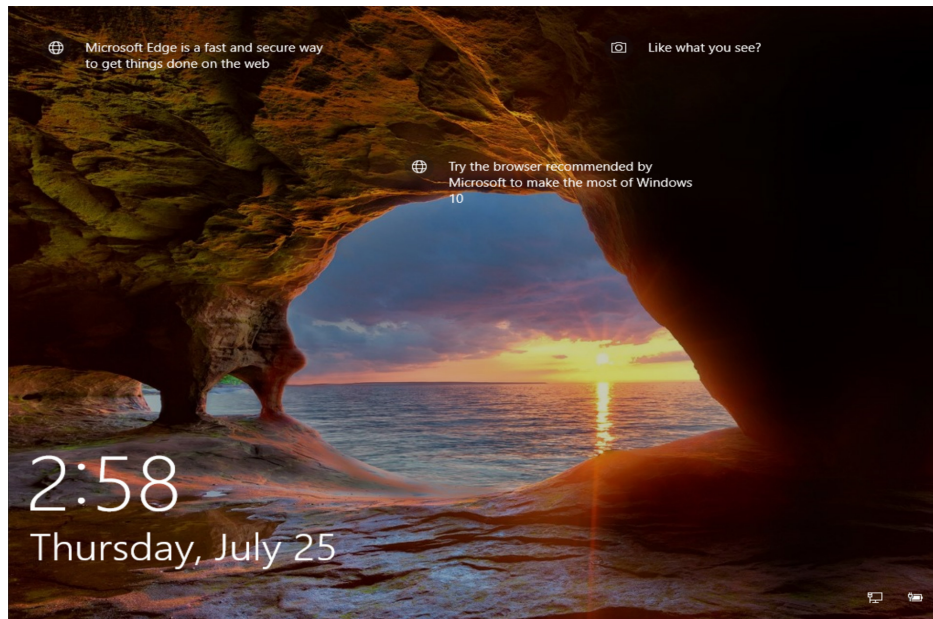
Before examining how you can personalize specific parts of Windows, let's address a controversial topic right up-front: For all that Microsoft has gotten right in the latest Windows version, the company has also peppered it with various annoyances, many of which take the form of unwanted advertising. So let's look at eliminating these issues first.



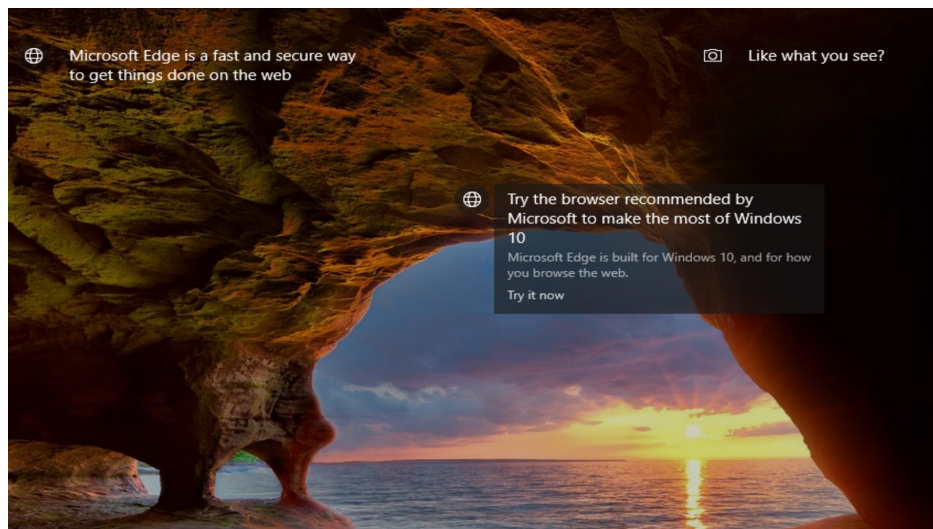
Some people may not be upset by this advertising. And, in some cases, you won't even see it at first. So you should evaluate these on a case-by-case basis and make the right choice for you.

### Turn off Lock screen advertising

By default, Windows utilizes a fun Windows Spotlight background that provides a great new wallpaper image from Bing every day. There are usually two or three informational bubbles, too, which provide you with more details about the depicted location.



But Windows Showcase can also display advertising, in particular for Microsoft products and services like the Edge web browser or Cortana.



Unfortunately, you must disable Windows Spotlight to get rid of this; you can't just turn off the advertising.

To do so, navigate to Settings > Personalization > Lock screen. For the Background option, choose “Picture” or “Slideshow,” and not “Windows spotlight”. (And then choose a favorite personal photo, or photos.)



We discuss other lock screen options in the section *Customize the lock screen and sign-in screen* later in this chapter.

## Remove crapware

Even a clean install of Windows comes with several unwanted and unnecessary third-party apps and games, which you'll see littering the Start menu's apps list and tiles areas.



Oddly, some of the tiles you will see represent apps and games that aren't actually installed (yet) on the PC. When you select such a tile, it will install from the Store. Fortunately, you can simply remove both types of tiles.

To do so, right-click the tile for an app (or app advertisement) that you wish to remove. Then, choose "Uninstall" or "Unpin from Start" from the pop-up menu that appears. (In some cases, these choices might be under "More.")

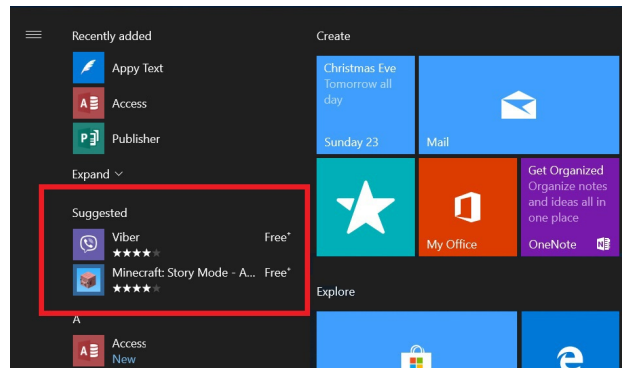


Be sure to scan through the entire apps list for more crapware to uninstall as well.

## Turn off Start advertising

The Windows Start experience is much improved over that in previous versions, but it also has a few downsides. Key among them is that it displays a variety of ads by default.

This is seen in a "Suggested" section in the Apps list on the left; this is an advertisement for one or more Windows Store apps or games that appears shortly after you start using a new or upgraded Windows install.



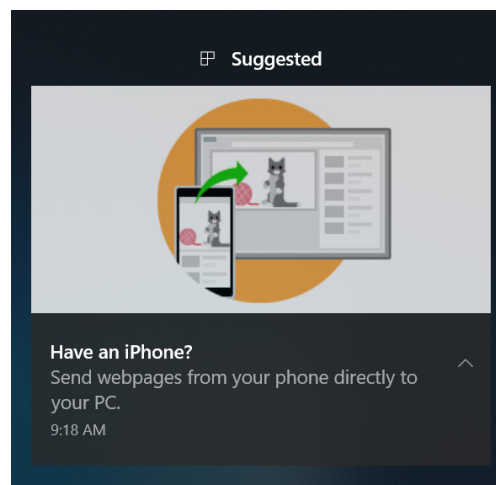
To remove the Suggested section, open Settings (WINKEY + I) and navigate to Personalization > Start. Then, change the option titled “Show suggestions occasionally in Start” to Off.



We discuss other Start options in the section *Customize Start* later in this chapter.

## Turn off Action Center advertising

Windows will occasionally display tips, suggestions and other distracting and unnecessary notifications and then store them in Action Center just in case you missed the pop-up banners.



You can prevent this from happening.

To do so, navigate to Settings > System > Notifications & actions and then scroll down to the Notifications section. Here, you will see two options to disable: “Show me the Windows welcome experience after updates and occasionally when I sign in to highlight what’s new and suggested” and “Get tips, tricks, and suggestions as you use Windows.” Then, under the Get notifications from these senders section, turn off notifications for “Suggested” as well.

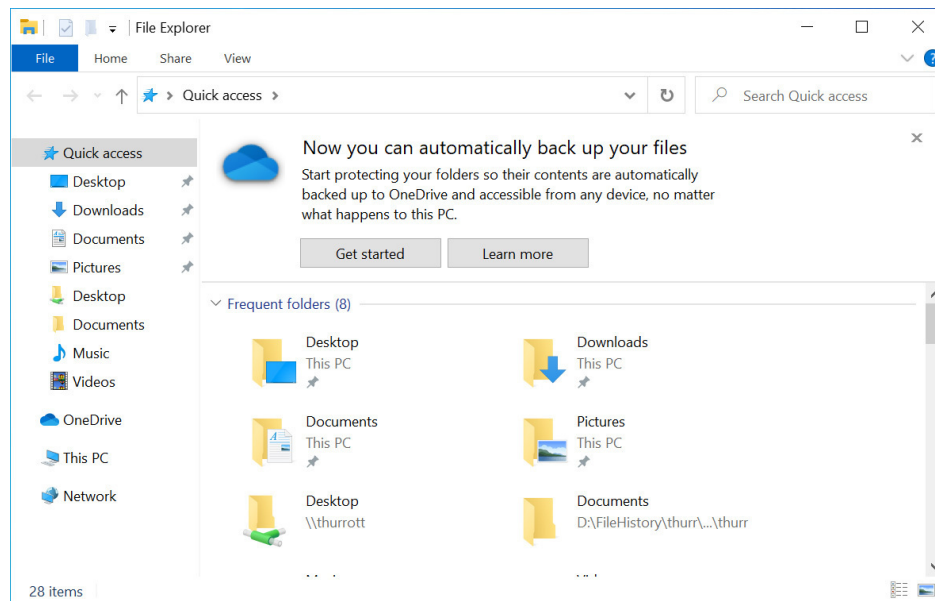




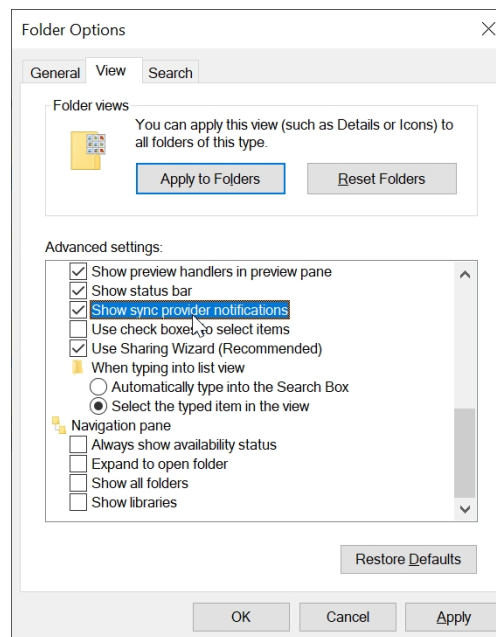
We discuss Action Center and notifications in more detail in the Microsoft Store and Apps chapter.

## Turn off File Explorer advertising

File Explorer is the Windows *shell*, the place where you go to interact with your PC's file system and various network locations. But Microsoft also uses File Explorer to advertise OneDrive features and Office 365.

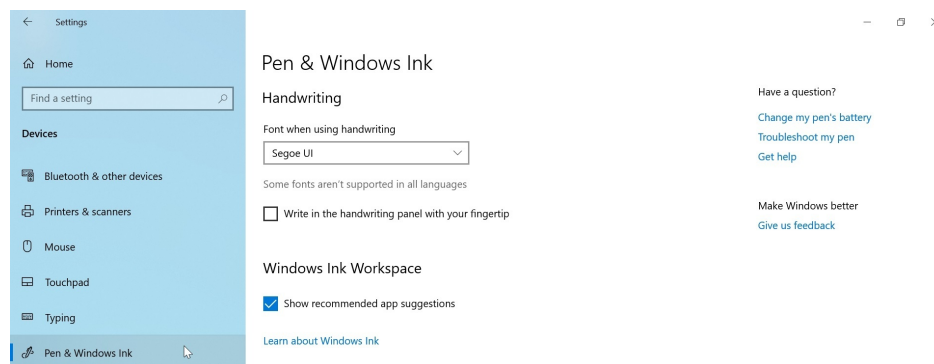


You can turn this intrusion off. To do so, open File Explorer and then navigate to View > Options > Change folder and search options. In the Folder Options window that appears, navigate to the View tab. In the Advanced settings list, scroll down until you see the option titled "Show sync provider notifications." Then, uncheck that option and then select OK to close the window.



## Turn off Windows Ink Workspace advertising

If you use a tablet or 2-in-1 PC with an active pen, you might find the Suggested area in the Windows Ink Workspace—which can suggest individual apps or just link to Ink-enabled apps in the Store—to be objectionable. To disable it, navigate to Settings > Devices > Pen & Windows Ink. Then, change the setting “Show recommended app suggestions” under Windows Ink Workspace to Off.



## Customize your privacy settings

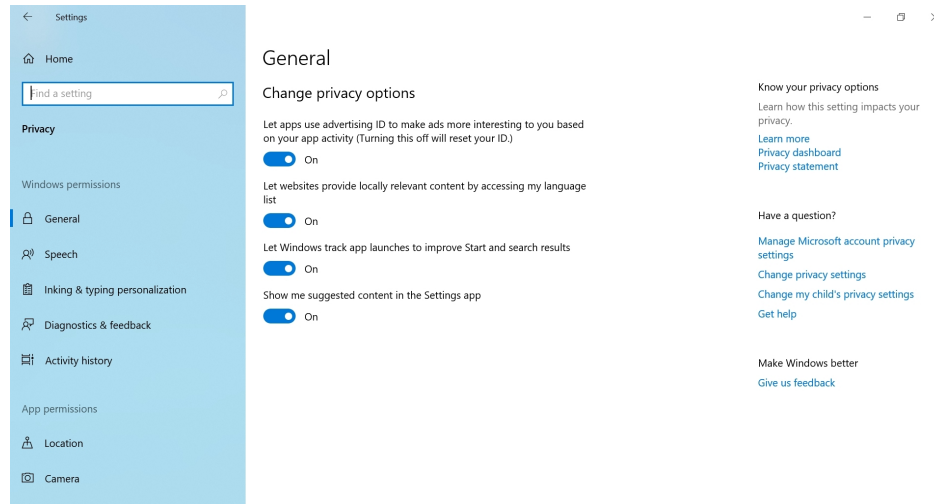
Microsoft has clearly gotten the message on privacy, and Windows now includes numerous privacy-related controls and dashboards. You are prompted to configure several of these options during initial Setup but it's important to know that there are many more privacy settings than what is presented then. And that you can change any of these options at any time.



It can be tedious, but we strongly recommend that you review your privacy settings from time-to-time. One strategy is to do so after a new Windows 10 feature update is installed.

## Review your privacy settings

You can find Privacy settings by navigating to Settings > Privacy.



Here, you will find many options organized under the sections Windows permissions and App permissions. They are:

**General.** Here, you will see options for disabling the personal advertising ID (which will result in non-personalized ads), allowing websites to know your configured languages list so that they can provide you with locally-relevant content, and determine whether Windows can track your app launches so that it can improve the Start and search experiences in the product. Also, you can toggle whether suggested content appears in the Settings app. (Unlike other “suggestions” in Windows, these are actually useful and would not be classified as advertising.)

**Speech.** Cortana and the general dictation capabilities in Windows will learn your voice over time so that it can more accurately respond to your questions. Likewise, Cortana—which, remember, is a digital personal assistant—must have access to your calendar, contacts, and other personal information in its notebook in order to work properly.

**Inking & typing personalization.** Windows will learn your handwriting (via smartpen) and typing (via keyboard) over time so that it can create a local (on-PC) dictionary that makes better spelling suggestions as you write or type. If you’d like, you can turn off this capability here, and you can view your personal dictionary, too.

**Diagnostics & feedback.** By default, Windows sends anonymous *telemetry* data to Microsoft so that the company can improve the product for everyone. But you can configure this data collection to be Basic (which is minimal, not “none”) or Full, where you’re behaving like a responsible adult.

Likewise, Windows will automatically prompt you for feedback from time to time; if you don't like that, you can change the timing or just turn it off. You can also allow Microsoft to use your usage data to help it send you tailored tips and recommendations. There is also some functionality here related to a tool called the Diagnostic Data Viewer, which we examine in the next section.

**Activity history.** This set of options is related to the Timeline feature we discuss in the Basic Navigation and Usage chapter. You can enable an option that lets Windows store your activity across apps and documents so that you can view those activities over time and return and work on something from the past. You can also choose to “send my activity history to Microsoft,” which isn't as scary as it sounds: This is so your activity is available via Timeline on your other PCs, and on your smartphone too.

**Location.** Here, you can configure and learn about your location settings. Key among the options here are a way to configure your default location and clear your location history. You can also configure which apps can use your precise location on an app-by-app basis.

**Camera.** As you might expect, this interface lets you globally enable or disable the camera(s) in or attached to your PC and determine which apps can access them on an app-by-app basis.

**Microphone.** Ditto, but for the microphone. If you do choose to disable the microphone, you'll be prompted whenever an application or system service needs to use it.

**Voice activation.** Here, you can configure whether apps like Amazon Alexa, Cortana, and the like can respond to keywords that you speak out loud. This capability, called voice activation, can be enabled or disabled globally and then configured on an app-by-app basis.

**Notifications.** This interface lets you globally enable or disable whether apps can access your notifications and then configure this capability on an app-by-app basis. (This is unrelated to enabling and configuring notifications for the user; that functionality is configured in Settings > System > Notifications & actions.)



Some apps, including some Microsoft Edge extensions, need this capability to work properly.

**Account info.** Some Store apps will use your account name, picture, and other info to personalize your experience. You can turn this ability off globally or on an app-by-app basis.

**Contacts.** Here, you can globally enable or disable whether apps can access your contacts and determine, on an app-by-app basis, which apps can do so.

**Calendar.** Ditto, but for your schedule.

**Phone calls.** Certain Windows apps—including Your Phone, Maps, and Cortana—can place phone calls using a connected smartphone. This interface determines whether this functionality is enabled globally and it lets you configure it on an app-by-app basis.

**Call history.** Here, you can globally enable or disable whether apps can access your call history and determine, on an app-by-app basis, which apps can do so.

**Email.** Here, you can determine which apps can access your email and send email on your behalf. You can also disable this capability globally.



The Mail and Calendar apps always have access to your email.

**Tasks.** Here, you can determine which apps can access your online account-based tasks on your behalf. You can also disable this capability globally.



The Mail and Calendar apps always have access to your tasks.

**Messaging.** You can globally enable or disable the ability of apps to read or send text messages (SMS and MMS) through your smartphone. You can also individually choose which apps have this access.

**Radios.** Some radios in your PC—like Bluetooth—can be controlled by apps. (For example, the Your Phone app can optionally sync with your smartphone over Bluetooth.) You can disable this functionality globally or on an app-by-app basis.

**Other devices.** While you will explicitly pair some devices with your PC, there is another class of devices that is implicitly paired when in range. Here, you can determine whether your PC can share data with wireless devices and determine which apps are not allowed to do so.

**Background apps.** Here, you can determine whether to allow apps to run in the background globally, and further configure background activity on an app-by-app basis. Note that modern app platforms like that in Windows rely on this capability for apps to function properly. The Mail app, for example, can run in the background and alert you when new email arrives even if the app is not running in the foreground (with a visible app window).

**App diagnostics.** This page determines whether apps can access the telemetry data that Windows 10 gathers and, if so, which apps.

**Automatic file downloads.** By default, OneDrive and other online storage provider apps will automatically download any file marked as online-only if you open it. But you can block OneDrive from doing so. If you later regret this choice, you can visit this interface and re-enable it.

**Documents.** This page provides permissions for your so-called Document library—which is either your local Documents folder or your OneDrive Documents folder by default—globally or on an app-by-app basis.



You can move your Documents library to OneDrive in OneDrive settings.

**Pictures.** This works similarly to Documents, but for your Pictures library.

**Videos.** This works similarly to Documents, but for your Videos library.

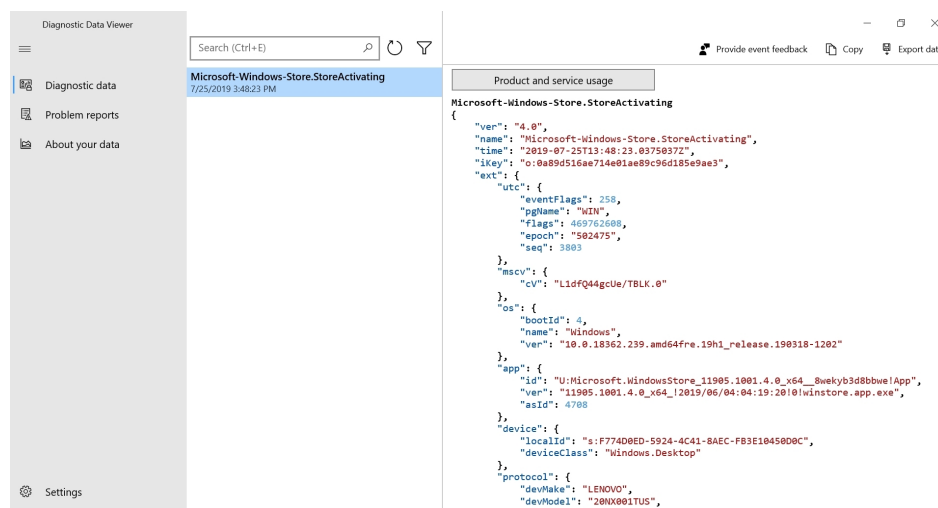
**File system.** This works similarly to Documents, but for your PC's file system.

## See the data that Windows collects

A Diagnostic Data Viewer utility shows you what data Windows collects, albeit in a human-unfriendly XML format. But it's disabled by default because it can use up to 1 GB of disk space.

To enable it, open Settings and navigate to Privacy > Diagnostics & feedback and locate the View diagnostic data section. Then, flip the option toggle there to On. If the app is not installed, the Microsoft Store will appear so that you can install it.

To use this utility, selection the “Open Diagnostic Data Viewer” button. If this is the first time you've done this, you'll be prompted to download and install this app from the Microsoft Store. The Diagnostic Data Viewer uses an XML-based formatting scheme and as you can see it is designed for machine reading, not human reading.



This is literally the data that Windows has sent to Microsoft, so viewing it even in this cryptic fashion should allay any fear that the company is “spying” on you, as some conspiracy theorists no doubt suspect.

To delete the diagnostic data that Microsoft has already collected, select the “Delete” button under Delete diagnostic data in the Diagnostics & feedback page in Settings.

## Customize the display

Windows will try to select the correct resolution and display scaling for your PC's display based on its understanding of the device's size and capabilities. But you may still want to customize these

options to your liking and make other changes related to how Windows looks on your PC. Most of these settings can be found in Settings > System > Display.

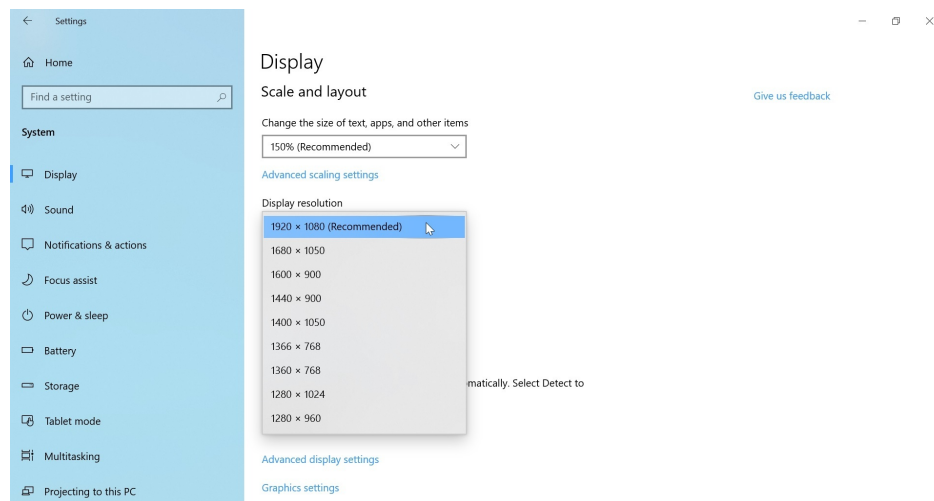


You can also jump directly to this Settings page by right-clicking the desktop and choosing Display settings.

Key options here are described in the following sections.

## Change the display resolution

In Display settings, you can choose between the literal (or native) and recommended resolution of your display and several other choices, all of which will be lower than the native resolution. This should always be set to the native resolution, so just be sure that's the case.



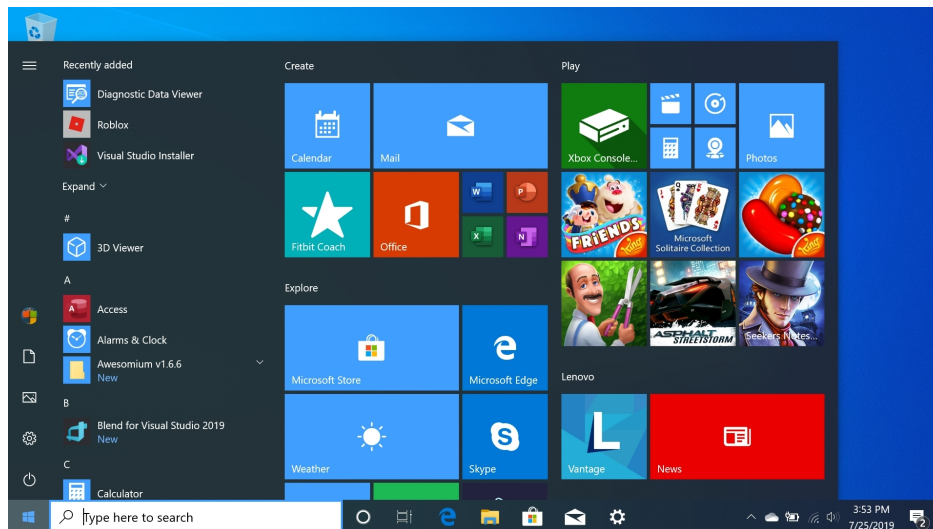
If you find the user interface elements in Windows to be too small (or too big) at your display's native resolution, you can make them bigger using the display scaling and text sizing techniques noted below.

## Change the display scaling

Once the display is set properly to its native resolution, you can use the display scaling capabilities in Windows—found under Scale and layout in Display settings—to scale all of the user interface elements in the system so that it looks right to you.

As noted above, Windows will try to set the display scaling—found in the drop-down under “Change the size of text, apps, and other items”—correctly based on its understanding of your display's size

and resolution. But you can adjust it as you'd like. Here, for example, you can see the impact of using a perhaps overly-large scale setting of 175 percent.



The scaling that Windows recommends is denoted with the text “(Recommended)” in the “Change the size of text, apps, and other items” option.



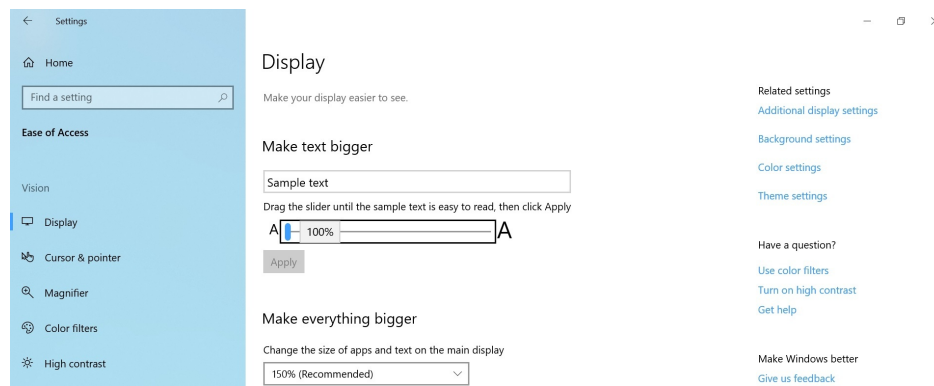
You can also use the “Advanced scaling settings” link to configure a custom scaling size between 100 and 500 percent. This is not recommended as Windows will automatically display the scaling sizes that will work properly on your display and not cut off any user interface elements.

## Make text bigger

Using a hidden feature in Windows, you can also optionally scale text independently of other user interface elements. This is useful if you prefer to use a smaller display scaling setting but would like to make just the on-screen text bigger.

To change text scaling independently, you need to first display this hidden option. To do so, use Start search or Setting search and look for *make text bigger*. When you do, Display settings appears with a new section called Make text bigger at the top of the window.





Now, you can use the slider to select the size of text, and use a preview pane to see the impact of this change. Select “Apply” when the text is exactly the size you prefer.

## Let Windows try to fix applications so they’re not blurry

One of the side-effects of the user interface and text scaling capabilities of Windows is that some applications—especially older desktop applications that were made well before these Windows features even existed—can look blurry. Windows will often prompt you to let it try and fix the display of these applications as this happens. But you can manually enable this setting as well.

To do so, navigate to Settings > Display > “Advanced scaling settings”. Then, enable the option titled “Let Windows try to fix apps so they’re not blurry.”

## Enable and configure Night light

Like Android and iOS, Windows supports a special display mode that removes a configurable amount of blue light from your PC’s display, making it appear warmer and more orange-colored. This feature, called Night light, is especially desirable at night because blue light is very harsh to our eyes and it impacts our ability to sleep normally.

You can toggle Night light manually in Display settings. But it’s better to set Night light to come on automatically on a set schedule—typically from sunset to sunrise—so that your PC is always configured optimally.

To do so, select “Night light settings” under Brightness and color. Then, in Night light settings, switch “Schedule night light” to On and choose “Sunset to sunrise” or your own custom schedule.



Be sure to experiment with the “Color temperature at night” slider as well. I happen to prefer the warmest—or “most orange”—setting to the far left. But you may prefer otherwise.



If you prefer a less harsh display, you should also consider using the Dark app mode in Windows as well. We discuss this mode later in this chapter.

## Customize the desktop

You can customize the Windows desktop by specifying a background, a theme, and other options. These options are found by navigating to Settings > Personalization.



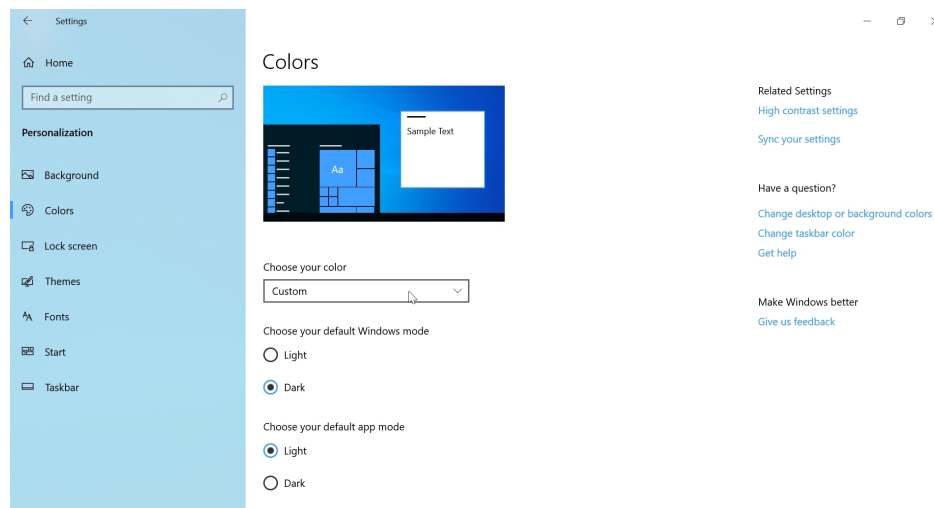
There’s a nice shortcut to this interface from the desktop, too. Just right-click an empty area of the desktop and choose “Personalize” from the pop-up menu that appears.

Here you can:

**Change the background.** Windows will retain your previously-configured desktop background if you upgrade from a older Windows version. Otherwise, you may see a default background that was specified by Microsoft or your PC maker. But you can change the background at any time, choosing between a picture, a solid color, or a photo slide show, which is a set of pictures that changes automatically on a schedule. You do so in Settings > Personalization > Background.

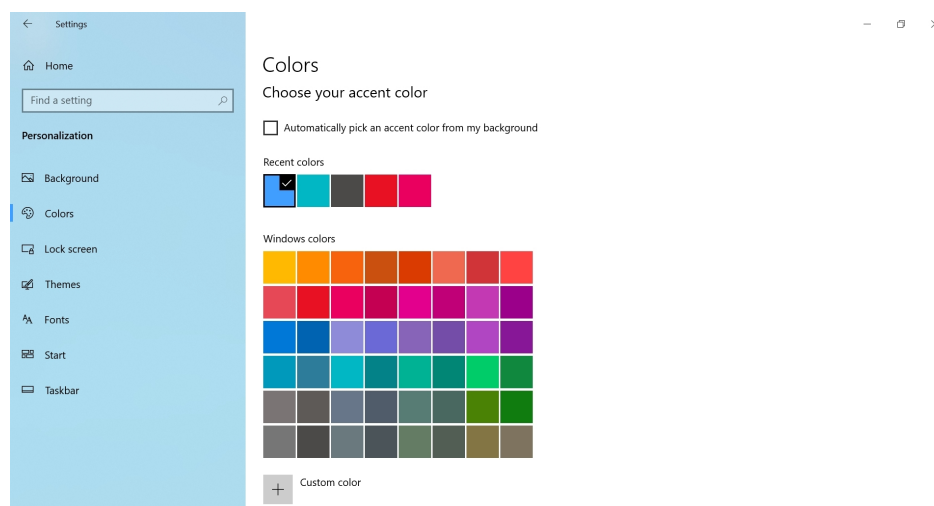
**Change the color (system theme).** Windows supports both Light and Dark system themes—or what Windows unfortunately calls “colors”. But you can also configure your “color” to be Custom and then individually configure the system UI (“default Windows mode”) and application windows (“default app mode”) to be Light or Dark. In other words, you can mix and match and use Light

application windows on top of a Dark system UI (or vice versa). You configure this in Settings > Personalization > Colors.

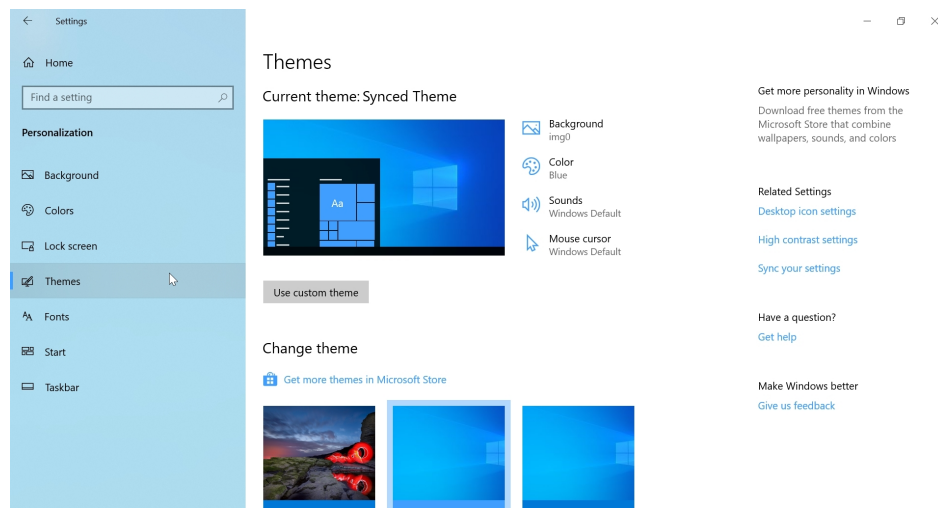


Most legacy Windows desktop applications—like Paint and WordPad—will not adopt the Dark app mode.

**Configure an accent color.** The *accent color* helps add a bit of contrast to the user interface. Windows can automatically choose an accent color based on the background. Or you can choose whichever accent color you prefer. You configure this in Settings > Personalization > Colors > Choose your accent color.



**Configure a theme.** In a nod to older Windows versions, you can still configure a Windows theme, which consists of a background, a default (accent) color, a sound scheme, and a mouse cursor style. This occurs in Settings > Personalization > Themes.



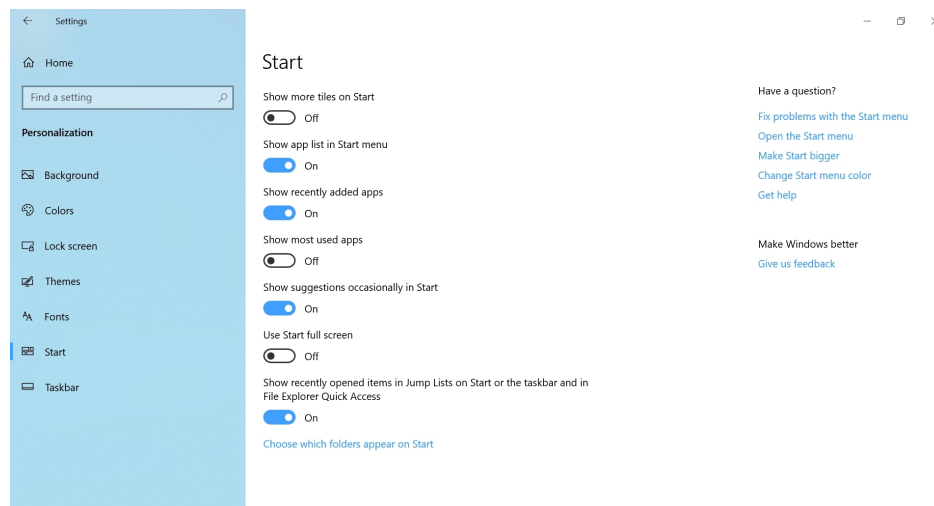
You can find professionally made themes in the Microsoft Store. Just select the link “Get more themes in Microsoft Store” to launch that app with the appropriate location displayed.

## Configure and customize Start

The Start experience you see in Windows can vary according to whether you’re using a traditional PC or a 2-in-1 or tablet PC. Most users will see a Start menu, as they did in Windows 7 and before, while those with 2-in-1 or tablets will often see a full-screen Start experience similar to the one in Windows 8.1. But you’re also free to choose either Start style, regardless of your PC’s configuration, and personalize Start in other ways too.

### Configure Start settings

Many Start customization options can be found in Settings > Personalization > Start.

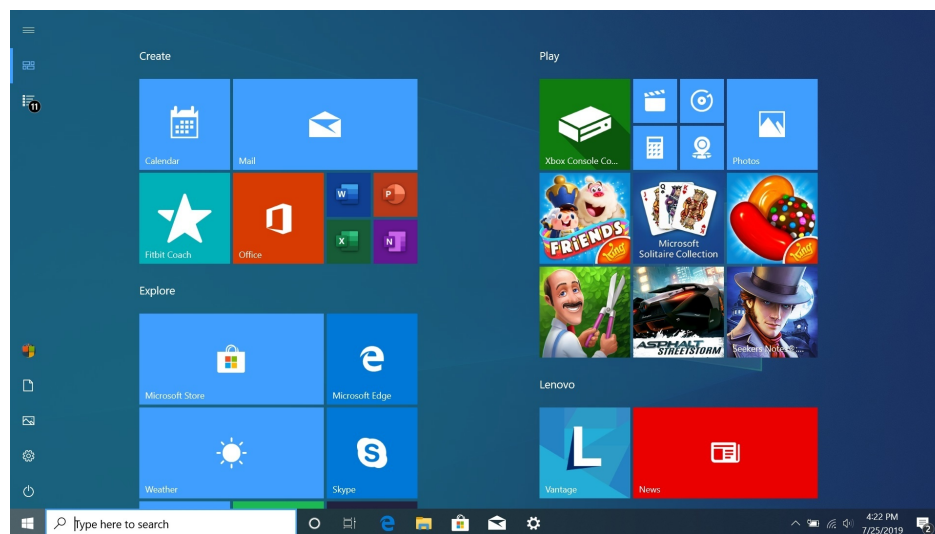


Here, you can customize the following:

**Show more tiles on Start.** By default, the tile columns in Start are wide enough to display three medium-sized (square) tiles side-by-side. If you enable this option, you can display four medium tiles side-by-side in each column.

**Configure the app list and the items it displays.** Several options apply to items on the left side of Start, called the app list, which can include Recently added, Most used, and Suggested sections. You can determine whether to display this area at all and/or individually toggle Recently added, Most used, and Suggested within the app list.

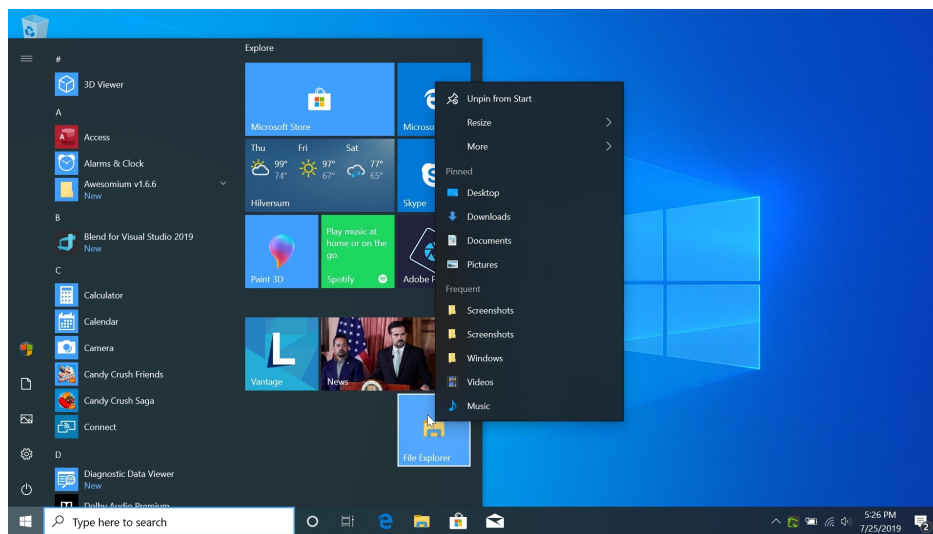
**Use Start full screen.** Windows 10 will automatically tailor Start to your PC, and will generally use a menu on traditional PCs and a full-screen experience for tablets. But you can choose to display Start in either mode, regardless of your PC. Just configure the option “Use Start full screen” accordingly.





This is *not* the same as Tablet mode. When using a full-screen Start experience, the taskbar is available normally, and apps and other windows can still run in windowed (rather than full-screen) mode. To configure Tablet mode, in which the taskbar is hidden by default and apps always run full-screen, navigate to Settings > System > Tablet mode.

**Show recently-opened items in Jump Lists on Start or the taskbar and in File Explorer Quick Access.** When enabled—as it is by default—this option lets you access app jump lists in the Start menu, the taskbar, and in the Quick Access view in File Explorer. Jump lists often include options that are app-specific, so these lists will vary from app to app. For example, here you can see the jump list for File Explorer, which contains links to recently accessed file system locations under the “Frequent” heading.



**Choose which system folders appear in Start.** Start can display several system locations—File Explorer, Settings, Documents, Downloads, and many others—in a menu on the far left. But you can configure which system locations appear in this list by selecting “Choose which folders appear on Start.” Just enable the items you wish to display.



Two items in this list, for your user account and the PC’s power options, cannot be configured: They are always displayed in Start.

## Customize Start

In addition to the Start settings you configure from the Settings app, you can also make many, many customizations directly from the Start menu itself.

Some key examples include:

**Resize the Start menu.** You can dramatically alter the size and shape of the Start menu by resizing it. To do so, grab the top or right edge of Start with the mouse cursor and drag in the desired direction. (You can also rearrange tile groups, as described below, to complete the effect.) For example, here is a thinner Start menu.



You can only resize Start when it is displayed as a menu. You can't really alter the size or shape of Start in full-screen mode beyond displaying more tiles and arranging tile groups.

**Customize the Start tiles.** Start provides an area for live tiles that display information from within the apps they represent. This can include such things as the weather forecast (Weather), recently received email messages (Mail), your next appointment (Calendar), and the like. These tiles can be arranged, grouped, and resized on the right side of Start, and you can also do things like create and name Start folders, disable live updating, and more.



**Pin an app to Start.** If you would like to access an app from the tiles area in Start, right-click it in the apps list and select “Pin to Start” from the pop-up menu that appears.

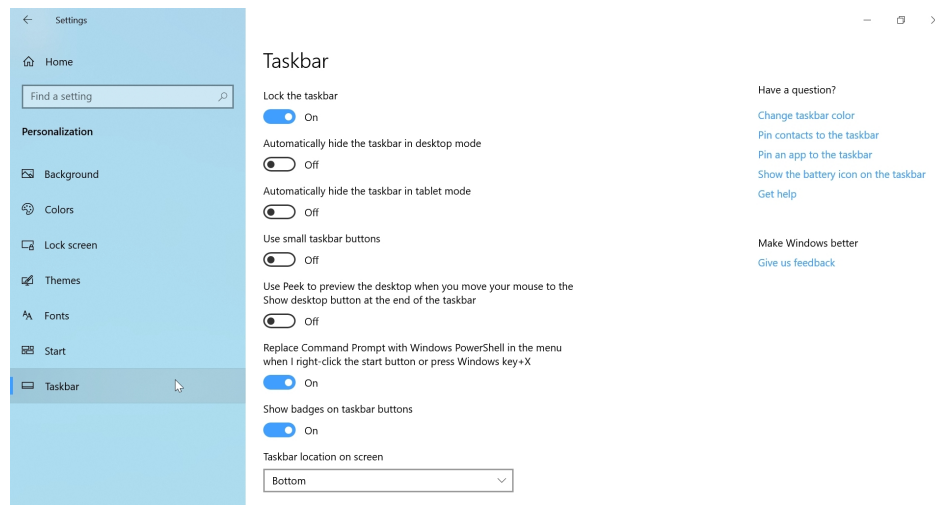


## Configure and customize the taskbar

The Windows taskbar can be configured in a variety of ways.

### Configure taskbar settings

You can find some options by navigating to Settings > Personalization > Taskbar.



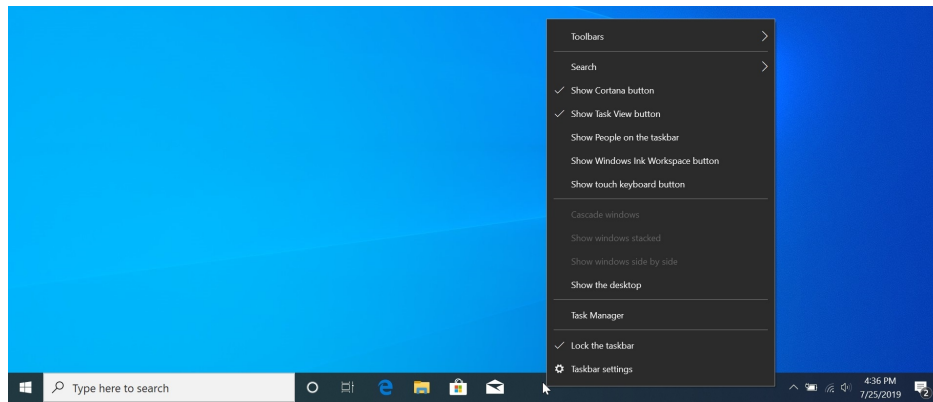
You can also access these options directly by right-clicking an empty area of the taskbar and choosing “Taskbar settings” from the pop-up menu that appears.

Since most of these options will be familiar to long-time Windows users, we won’t belabor the obvious.

### Customize the taskbar

You can further configure the taskbar by right-clicking it and examining the options you see in the menu that appears.





Some of the newer taskbar options here with which you may be unfamiliar include:

**Search.** Windows Search can be configured as a taskbar search box (the default) or a taskbar button. Or it can be hidden.



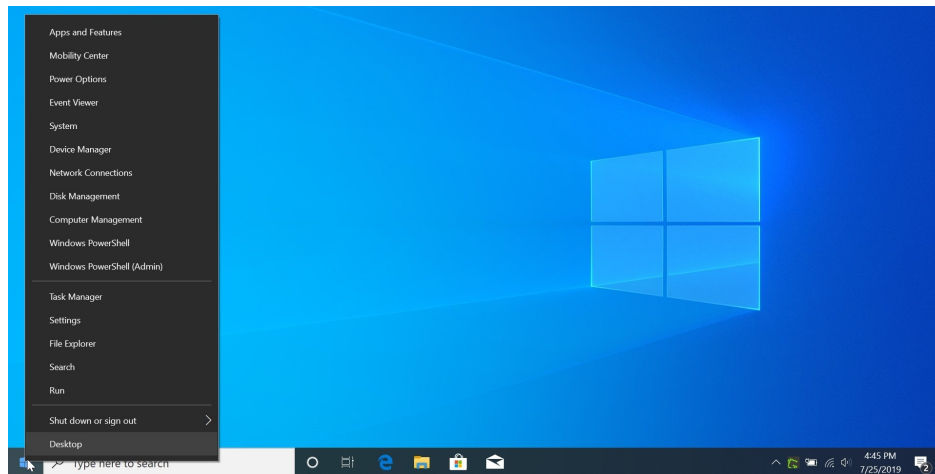
Even if you hide Search, you can still access Windows Search by typing WINKEY or by selecting the Start button and then typing. As you type, the Windows Search interface will appear.

**Show Cortana button.** By default, a Cortana button sits to the right of the Windows Search box in the taskbar, providing an obvious interface to Microsoft's personal digital assistant. Most users do not want or need Cortana, however, so you can hide this button.

**Show Task View button.** Microsoft places a Task View button in the Windows taskbar because only a tiny percentage of users are familiar with, or use, the ALT + TAB or WINKEY + TAB multitasking keyboard shortcuts. So this button provides access to a thumbnail view of all of your open apps and windows, and also lets you access Timeline and create a new virtual desktop. But you can also access Task View with the WINKEY + TAB keyboard shortcut. So you can safely hide it, freeing up space on your taskbar.

## Customize the Quick Access menu

Microsoft provides a hidden list of power user and legacy options in the Quick Access menu that can be accessed by right-clicking the Start button.



By default, the Quick Access menu provides links for the Windows PowerShell command line environment rather than Command Prompt. If you wish to change this, navigate to Settings > Personalization > Taskbar and disable the option titled “Replace Command Prompt with Windows PowerShell in the menu when I right-click the start button or press Windows key + X.”



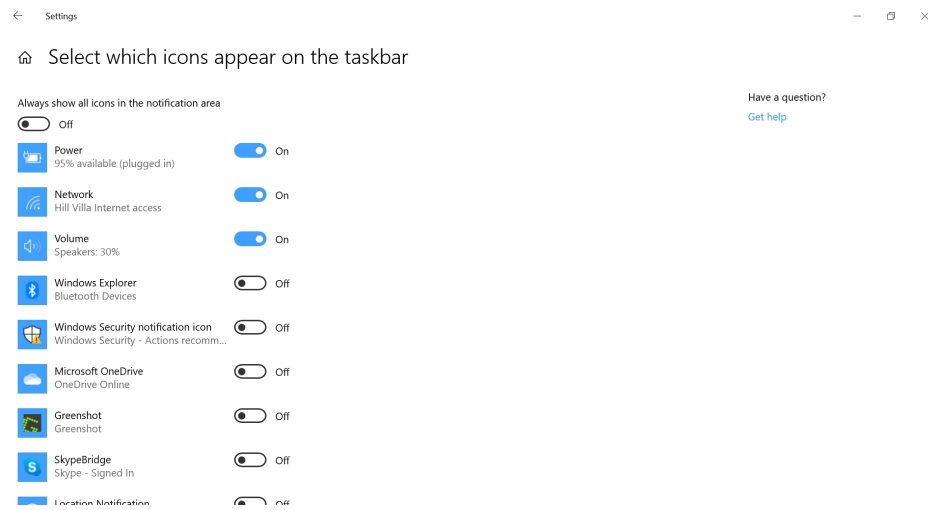
As suggested above, you can also access the Quick access menu by typing WINKEY + X.

## Customize the notification area

The notification area—which some incorrectly call the system tray—at the right of the taskbar houses notification and system icons, the clock and time, and the Action Center button. While you can configure all of these items, managing the notification icons—which connect to applications—and system icons that proliferate in this area is key to maintaining a less-cluttered Windows desktop.

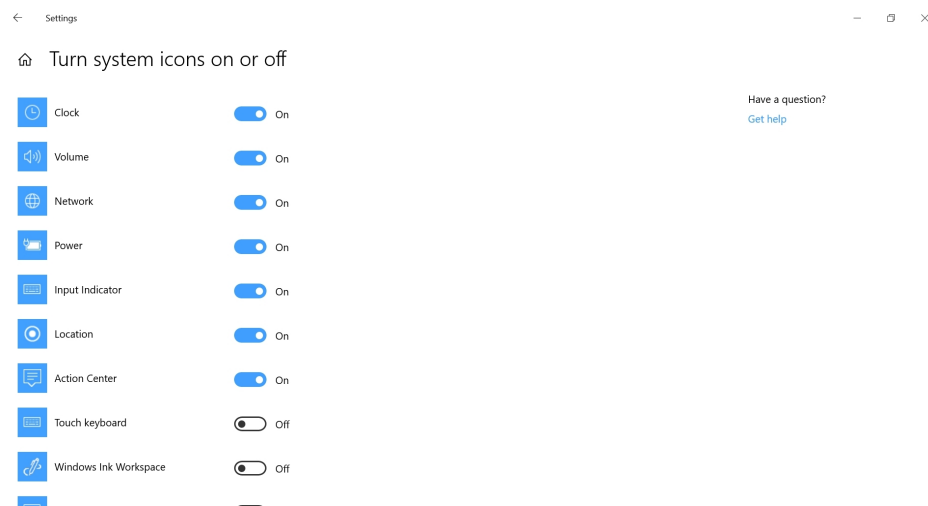
Both icon types are configured from the Settings app. So Navigate to Settings > Personalization > Taskbar, and then look for the Notification area heading. Here, you will see the links “Select which icons appear on the taskbar” and “Turn system icons on or off.”

If you select the former, you can configure which icons appears in the notification area.



You can also position notification icons by dragging them around in the notification area as you did in previous Windows versions.

And if you select the latter, you can configure which system icons appear in the notification area.

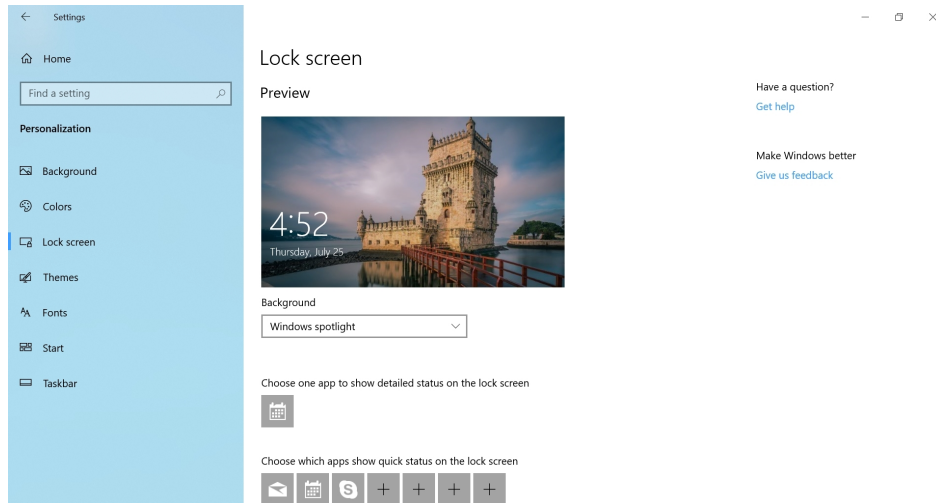


You cannot rearrange the order in which system icons appear, as you can with notification icons.

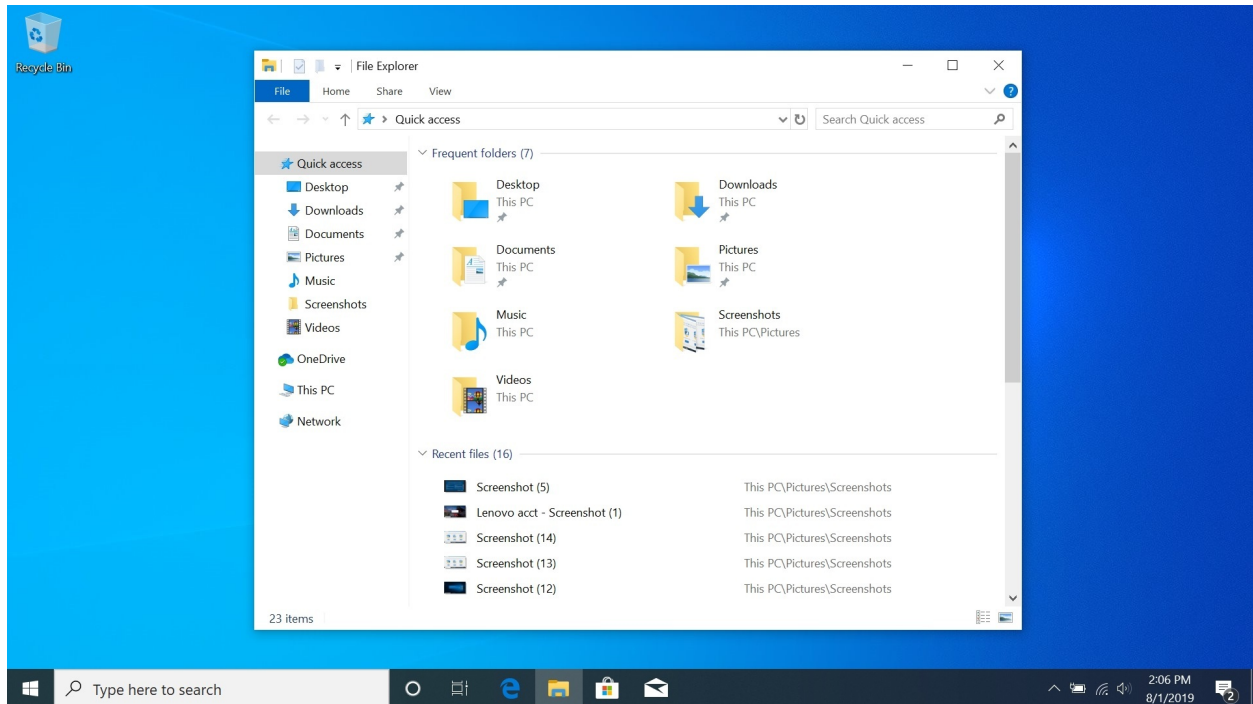
## Customize the lock screen and sign-in screen

The lock screen is the first thing you see when you power on or wake up your PC. It provides a number of useful displays, including the date and time, app notifications, and a background image

(or photo slide show). Most of these items can be customized in some way, and most of this is fairly obvious. But if you wish to check out what's possible, navigate to Settings > Personalization > Lock screen.



# Files and Storage



When it comes to files and storage, Windows hasn't changed much over the past several years, and most of the functionality you see today will be familiar to any Windows user. So this chapter will largely focus on the most recent changes, plus a key file backup solution that is surprisingly well-hidden.

## Get to know File Explorer

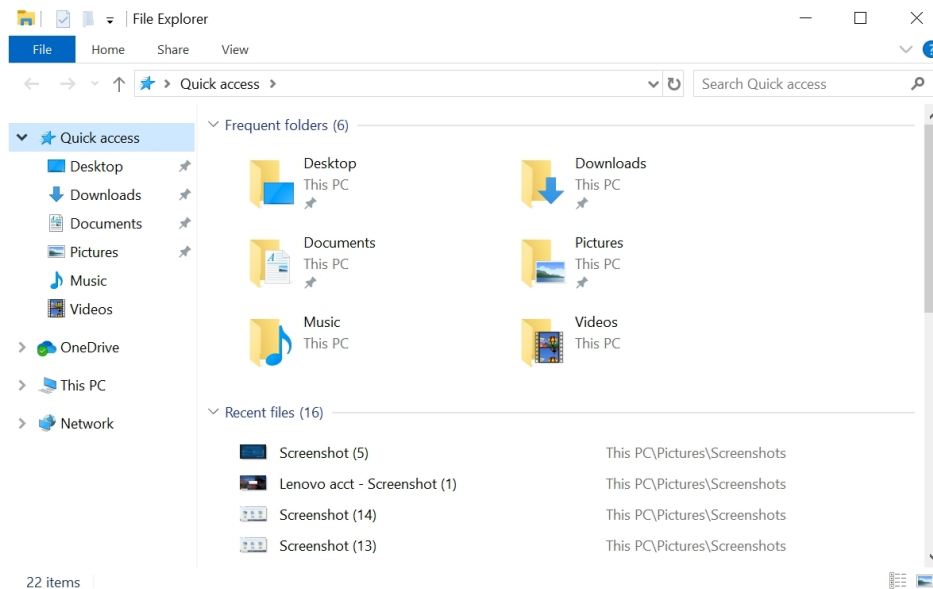
File Explorer is the primary interface to the files on your PC. It is essentially the same file management application that Microsoft has included in Windows since 1995.



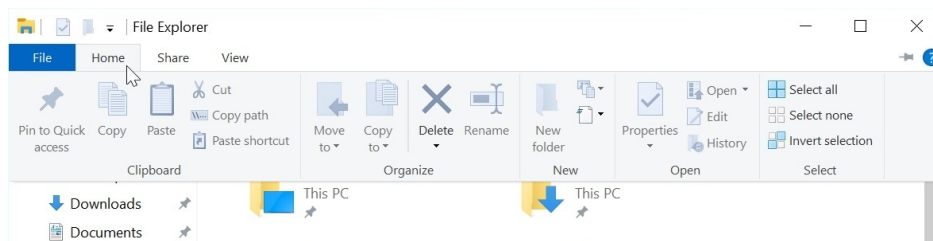
In Windows 7 and earlier Windows versions, File Explorer was called Windows Explorer.

File Explorer works as it did in previous Windows versions, and it utilizes a ribbon-based user interface that provides access to lots of commands. These commands are often context-sensitive, too, so some will appear only when needed, such as when you select a file or navigate to a certain

location in the file system. But since the ribbon is minimized, or collapsed, by default, File Explorer usually looks pretty svelte and minimalistic.



To temporarily display the ribbon and access the commands it contains, you can click on a ribbon tab like Home, Share, or View.



If you prefer to keep the ribbon visible at all times, just select the Expand the Ribbon caret in the top right of the File Explorer window. Or, type CTRL + F1.



You can open multiple File Explorer windows if needed and drag and drop files between them. To open a new File Explorer window, type WINKEY + E. Or, right-click the File Explorer button in the taskbar and choose "File Explorer" from the menu that appears.



You can also open a new File Explorer window from within an existing File Explorer window, as long as there is a folder visible in that window. To do so, hold down the SHIFT key and then right-click on the folder and choose "Open in new window" from the menu that appears.

## Configure or disable Quick access in File Explorer

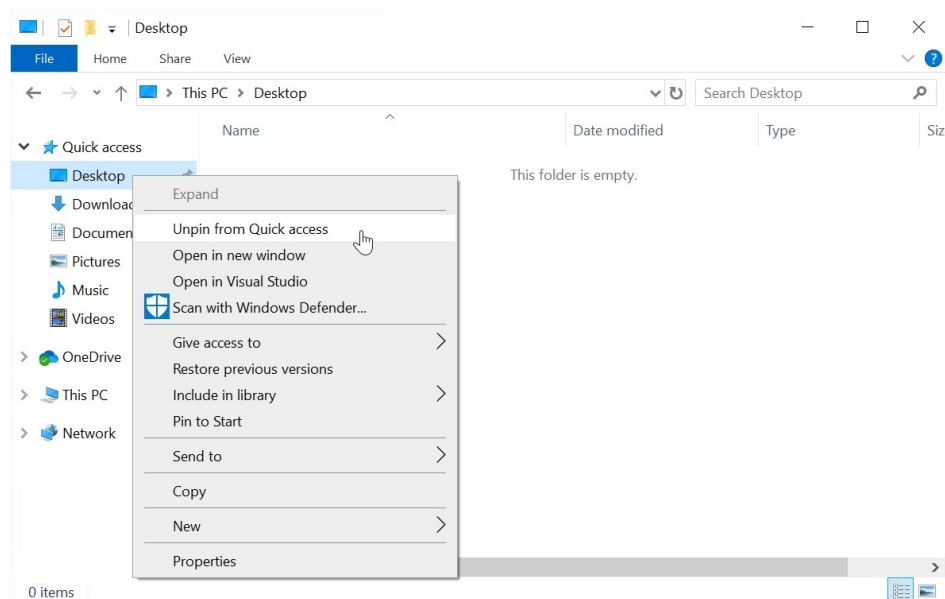
File Explorer defaults to a view called Quick access instead of displaying This PC, as in previous Windows versions. Quick access dynamically displays your recently and frequently accessed files and folders, so it is document-centric and changes over time.



This PC was called My PC, Computer, and My Computer in older Windows versions.

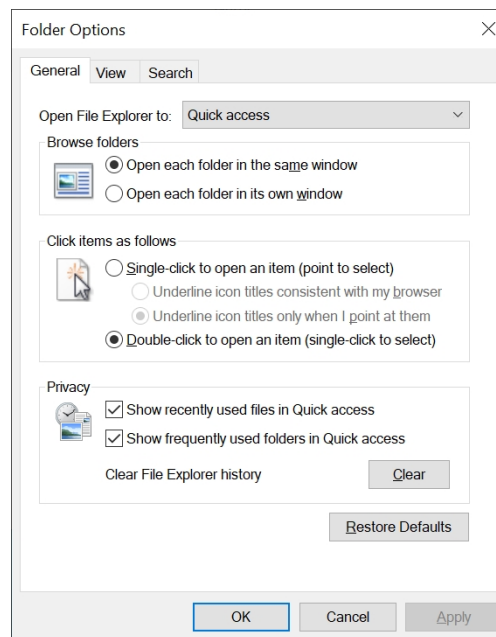
Quick access contains special shortcuts—called *pins* or *pinned items*—like the Desktop, Documents, Downloads, and Pictures folders—that are added for you automatically as well.

Fortunately, you can easily unpin items you don't want displayed in this view: Just right-click the item you wish to remove and choose “Unpin from Quick access” (or, for items that are added later, “Remove from Quick access”) from the pop-up menu that appears.



As noted, Quick access changes over time: As you open files and folders on your PC and local network, these items will appear in this view automatically. Folders appear in the Frequent folders section at the top and documents and other data files appear in Recent files.

This behavior may be desirable to you. But if you prefer for File Explorer to work more like it did in previous Windows versions, you can make a few useful configuration changes in File Explorer's Folder Options. To display this window, open File Explorer and navigate to View > Options > Change folder and search options.



To make File Explorer work like it did in previous Windows versions, consider making the following changes in the General tab.

**Display the This PC view by default.** Though File Explorer displays Quick access by default, you can change this to the more traditional This PC view by changing “Open File Explorer to:” to “This PC.”

**Prevent Quick access from automatically displaying frequently-used files.** Deselect the option “Show recently used files in Quick access” in the Privacy section.

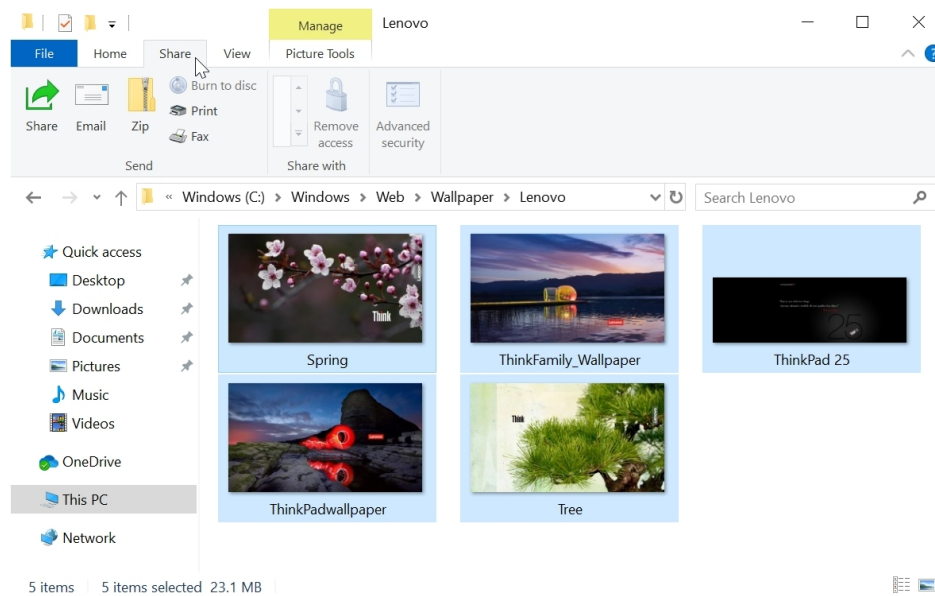
**Prevent Quick access from automatically displaying frequently-used folders.** Deselect the option “Show frequently used folders in Quick access” in the Privacy section.

## Share pictures and other files from File Explorer

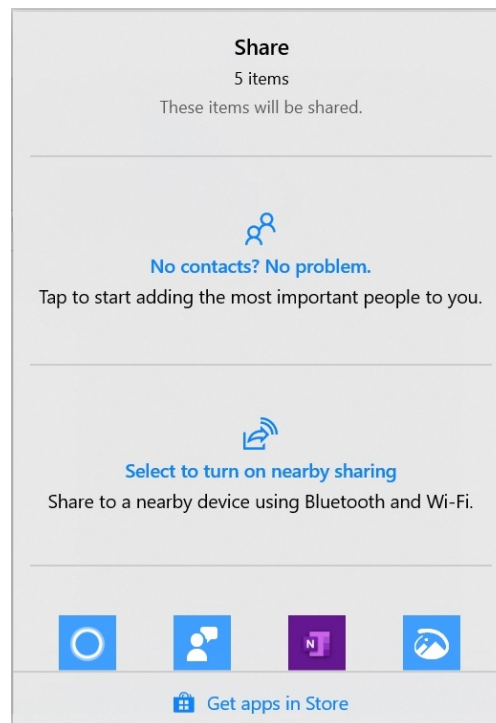
Though it is a legacy desktop application, File Explorer supports the system-level file sharing functionality in Windows in manner similar to more modern Store-based apps. This way, when you’re looking at photos or other files, you can share them with others right from the interface you’re already using.

To share from File Explorer, select one or more files in the same view. Then, select the Share tab to display the Share ribbon.





Now, select the Share button on the left. When you do, a floating Share pane appears, letting you share the files with others. You can choose to share with people—your most frequently-used contacts are listed at the top—or by app.



What you see here will vary depending on your contacts and which apps you have installed.



If you select a person, you will have to share the selected items via the Mail app.

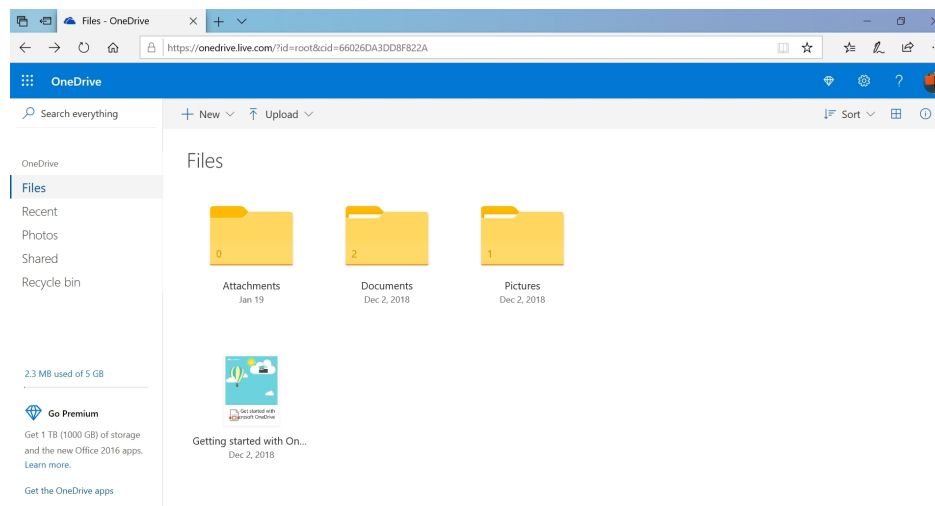
## Use OneDrive to sync files between the cloud and your PC

OneDrive is Microsoft's cloud storage service. It provides any user with a Microsoft account with 5 GB of free cloud storage space and the ability to buy more on an annual basis.



Office 365 subscribers also get an additional 1 TB of OneDrive storage.

You can reach OneDrive on the web at [onedrive.com](https://onedrive.live.com), and use this interface to upload and download files, watch photo slide shows and videos, share files with others, and perform other file-related tasks.



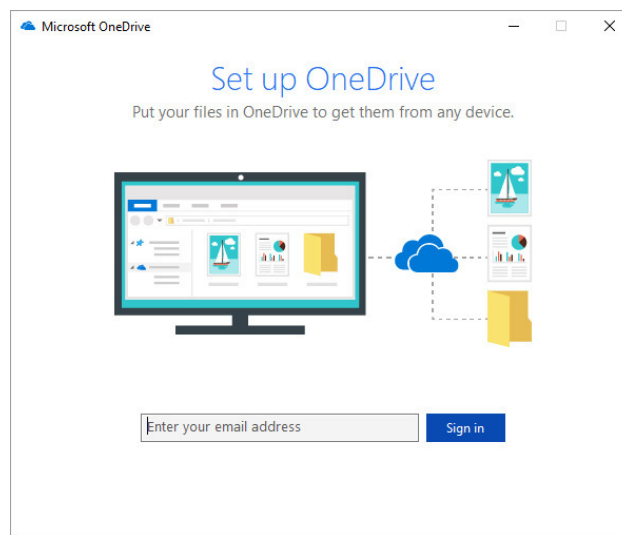
You can also manage your OneDrive storage by selecting the storage usage link in the lower left of the display or by navigating directly to the [OneDrive Manage Storage](#) page.

But OneDrive isn't just about the web. On iPhones and Android phones, you can configure the service to automatically back up all of the photos you take to the cloud, for example. OneDrive is also available on Microsoft's Xbox video game consoles. And on Windows and the Mac, the software giant provides a full-featured client sync experience with File Explorer (or, on the Mac, Finder) integration. So you can access your documents, photos, and other files from anywhere, at any time.

In this chapter, we are going to focus exclusively on OneDrive's integration with File Explorer and your PC's file system. This integration is a big deal because Windows lets you view and access your OneDrive-based files in a seamless way. And because you can configure those OneDrive files to *sync* with your PC so that they are always available, even if the PC is offline. Any changes you make to these files will automatically be synced with the cloud when you are online again. All you have to do is a little configuration work.

## Configure OneDrive sync

When you initially set up Windows or otherwise sign-in as a new user for the first time, you'll eventually be prompted to use OneDrive. This can happen via a banner notification, a "Set up OneDrive" window, or a promotion at the top of the File Explorer window.



If you wish to use OneDrive, you must sign-in to the application with a Microsoft account. This is true whether you sign-in to Windows with a Microsoft account or not.

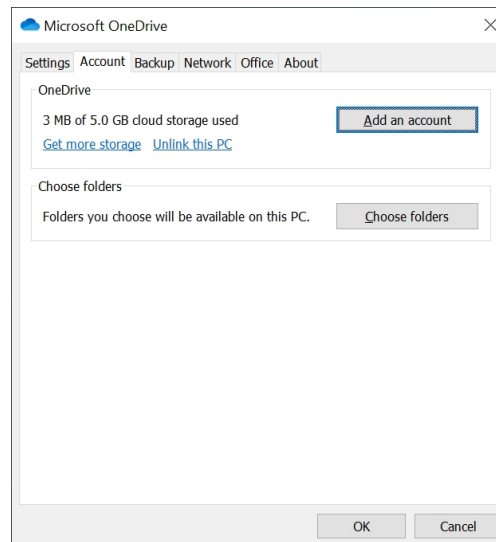
OneDrive will configure itself automatically, based on how much storage is available on your PC *and* how much online storage you're using in OneDrive. If the contents in your OneDrive storage can fit comfortably on your PC, it will simply sync all of your OneDrive content with your PC. Otherwise, it will use a feature called Files On-Demand to *display* all of your OneDrive contents on your PC and then download files as you access them.



You can optionally choose to make any OneDrive files and folders always available, syncing them with the PC so that you can access them more quickly and access them while the PC is offline.

This behavior is likely suitable for most people. But you should configure OneDrive to make sure

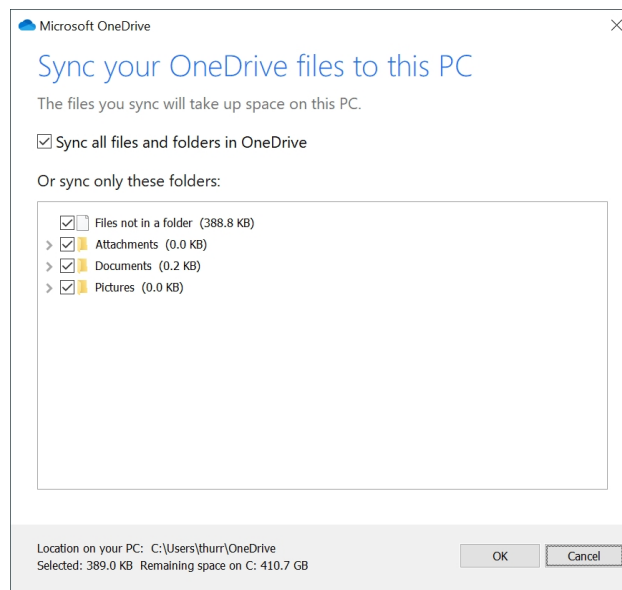
that it's optimized for your needs. To do so, select the OneDrive icon in the notification area and choose More ("...") and then "Settings." The Microsoft OneDrive settings window appears.



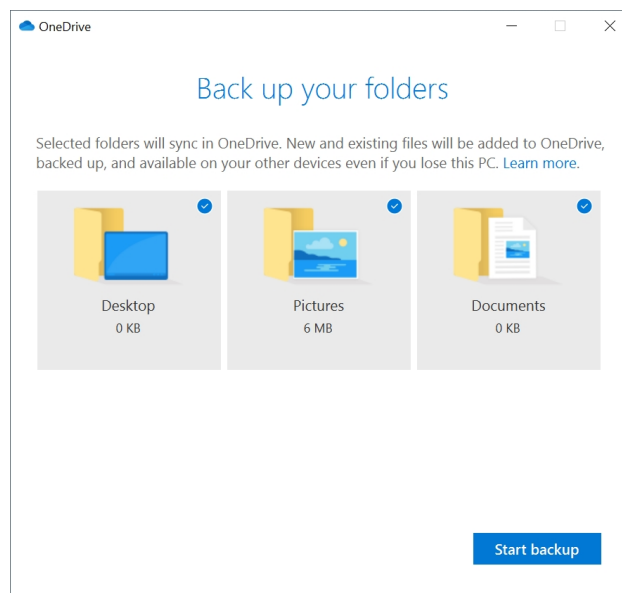
There are a number of important options to consider in this window. Unfortunately, they are spread out over multiple tabs.

**Files On-Demand.** In the Settings tab, make sure that Files On-Demand is enabled. This is the feature that lets you browse and open all of the files in folders in your OneDrive storage, even if they're not synced, and assuming your PC is online. This is described in more detail later in this chapter.

**Choose which folders to sync.** On the Account tab, the Choose folders button is used to determine which of your OneDrive-based folders—and their contents—will be synced with your PC. If you're using Files On-Demand, all of your OneDrive folders will be accessible on your PC. But if you're not, you can choose exactly which folders will be synced to the PC, which makes them both viewable and available offline.



**Use OneDrive to backup your Desktop, Documents, and Pictures folders.** In the Backup tab, you can choose whether OneDrive automatically backs up your Desktop, Documents, and Pictures folders to OneDrive. To configure this, select the Manage backup button to display the Back up your folders window.

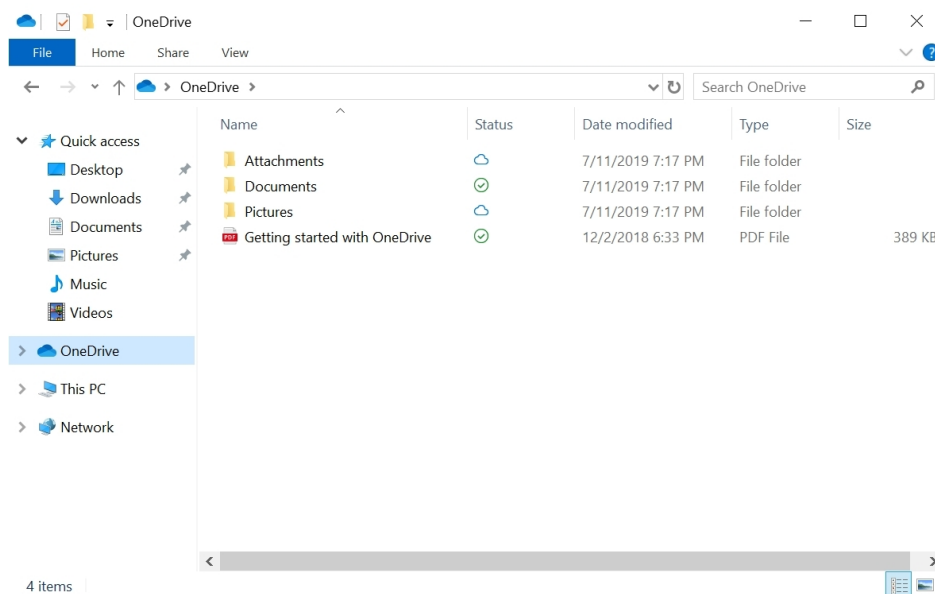


**Automatically save photos, videos, and screenshots to OneDrive.** The Backup tab also has two more options for determining whether you will backup photos and videos from connected cameras, phones, or other devices, and screenshots, respectively, to OneDrive.

## Use OneDrive Files On-Demand

Files On-Demand lets you browse and access all of the files in your OneDrive storage without forcing you to sync them first and make them available when the PC is offline. This feature is enabled by default if the contents of your OneDrive storage is too big to fit in your PC's storage. Otherwise, OneDrive will simply sync everything in OneDrive to your PC.

With Files On-Demand enabled, File Explorer will show you all of the content you have in Microsoft's online cloud storage service. Just select the OneDrive item in the navigation pane to dive in.



This view differs from other File Explorer views in one key way: There's a Status column with associated icons that indicate the availability status of each file or folder in the current view. Above, you can see two of the availability status types: "Available when online" (the blue-outlined cloud) and "Available on this device" (the solid green check mark).

There are four different icons in all. They are:



**Always keep on this device.** These are the items that you have explicitly chosen to sync, as described above. They are available offline.



**Available on this device.** These are files that are syncing because you previously opened them. They are available offline.



**Available when online.** These items are available in OneDrive and can be opened if the PC is online. They are not available offline.



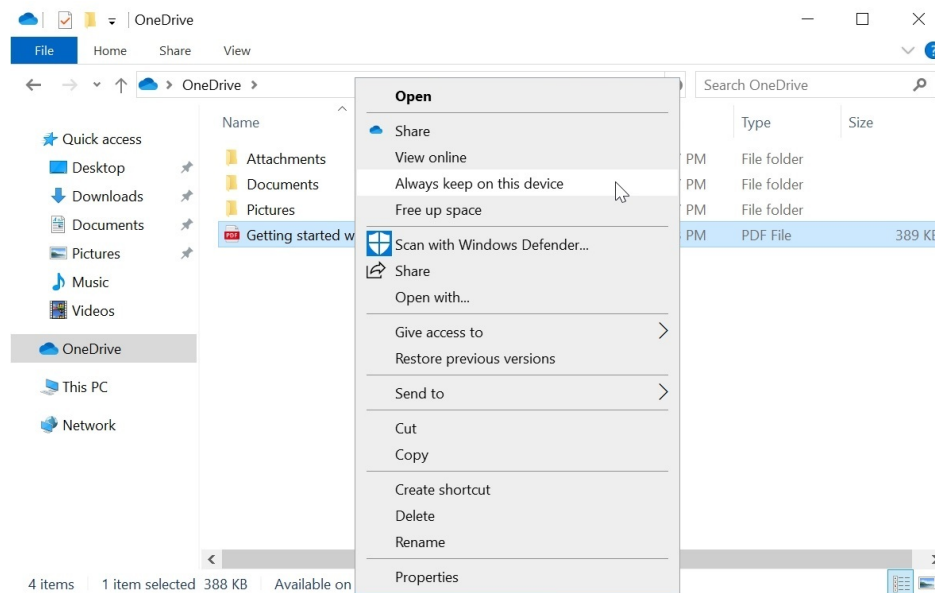
**Syncing/Sync pending.** When you explicitly sync content to the PC, you will see this icon while that initial sync is occurring.

On-demand files and folders work like normal, local content, even when they're only accessible online. You can open them, copy and move them, basically do everything you do with files that are stored locally. You just need to wait a few seconds for the files to download when you first access them.

That said, when you *do* open an on-demand file, it will automatically be synced to that PC. In other words, it will be available offline going forward.

You don't need to rely on this implicit form of sync to ensure that the files you always need are always available. Instead, you can explicitly mark folders and even individual files so that they will always be synced to that PC and will thus always be available offline.

To do so, find some content you wish to sync, right-click it, and choose "Always keep on this device" from the context menu that appears.

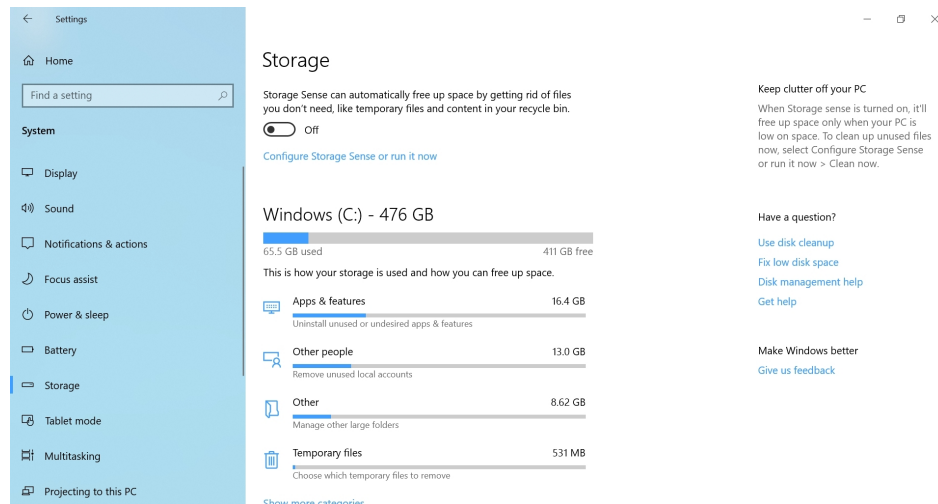


Likewise, if you'd like to stop syncing content, you can right-click it and choose "Free up space."

## Manage your PC's storage

Windows lets you manage how your PC utilizes the storage space in its hard drives and other storage devices. This functionality is especially useful for those PCs that include a second storage device, since you can configure which to use for your apps, games, and data. For example, many gamers will use a fast SSD drive for the system drive—where Windows is located—and then a larger traditional hard drive (HDD) for installing games.

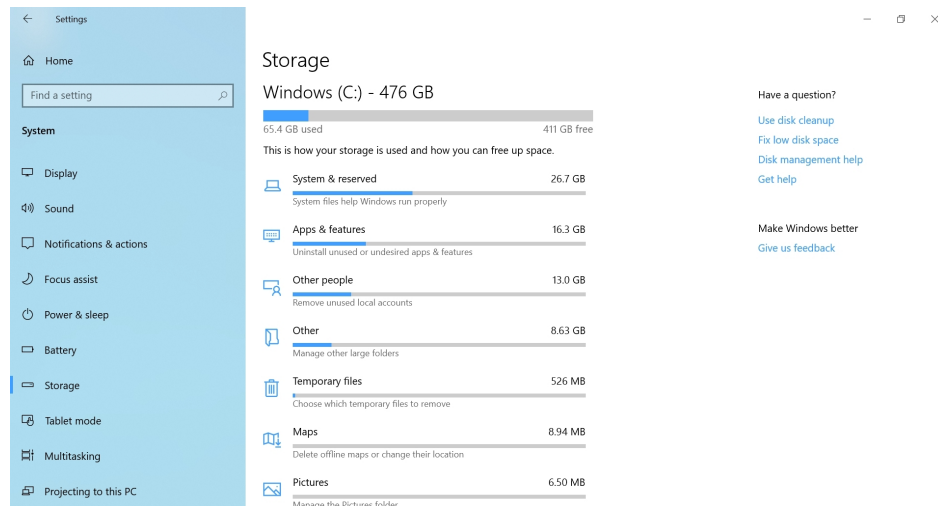
You manage device storage in Storage settings, which can be accessed by navigating to Settings > System > Storage.



We discuss the various notable features provided on this Settings page in the sections to follow.

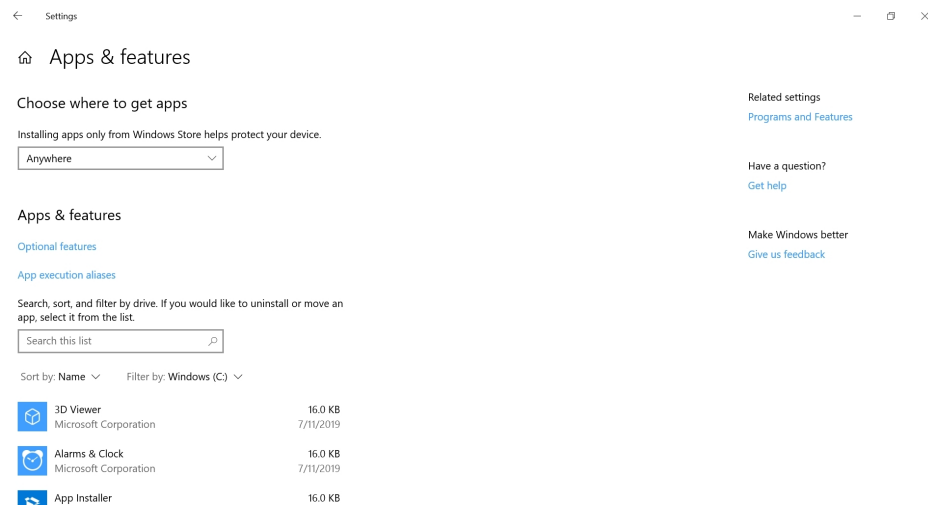
## See what's taking up storage space

Under the C: drive heading—which will be labeled according to the name it has in File Explorer—you can see what is taking up the storage space in your PC's system drive.



The usage is grouped by type. Some of these entries are read-only, but some can be further configured. For example, if you select Apps & features, a new page appears, allowing you to uninstall apps and games, or move them to a different storage device.



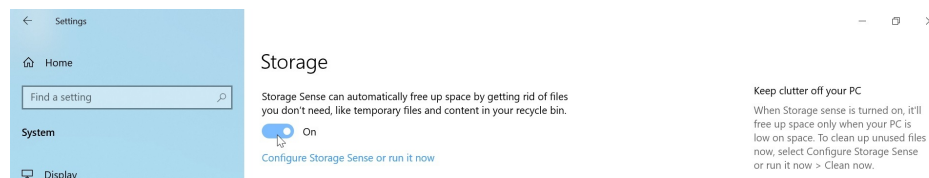


You can also see what's taking up space on other fixed and removable storage devices by selecting the link “View storage usage on other drives” under the More storage settings header on the main Storage settings page.

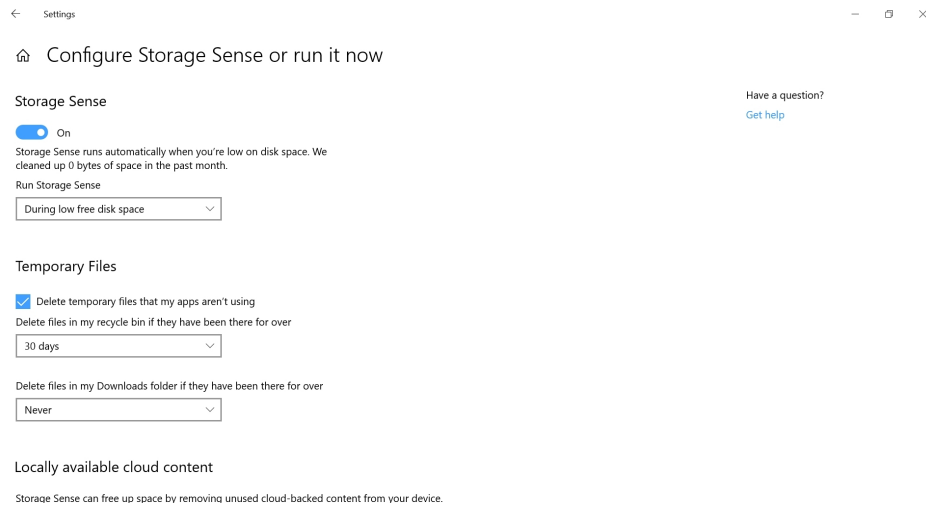
## Use Storage Sense to automatically free up storage space

An optional feature called Storage Sense will automatically delete unnecessary files if you're low on storage space.

To enable Storage Sense, change the Storage Sense toggle at the top of Settings > Storage to On.



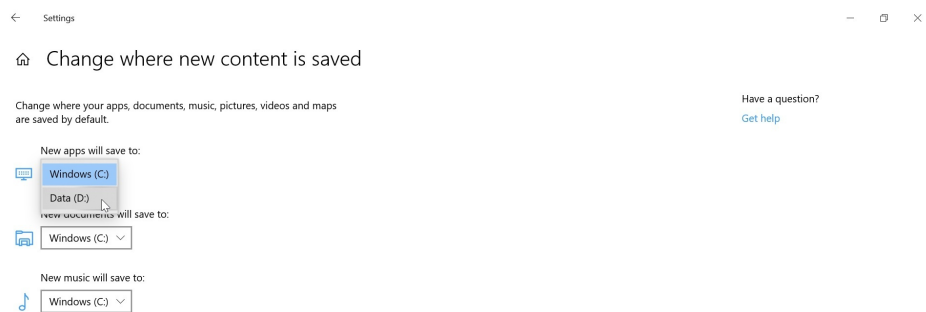
Then, select the link “Configure Storage Sense or run it now” to display a page that lets you configure this feature and, via the Clean now button at the bottom, manually clear up some storage space.



The Clean now button is a friendly front-end to the old-fashioned Disk Cleanup tool, which is still available in Windows. To find it, open the Start menu and search for *clean*.

## Configure where new content is stored

If you have more than one SSD and/or HDD, you can select the “Change where new content is saved” link under More storage settings to configure where new apps, documents, music, photos and videos, movies and TV shows, and offline maps will be stored.



To make a change, just select the drop-down under one of the content types and select a new drive.

## Back up and recover documents and other personal files with File History

File History is a useful but well-hidden tool that backs up your documents and other important personal files—including, crucially, previous versions of those files—so that you can “go back in

time” and recover older versions of files when needed. It pretty much requires a second drive of some kind, but even an SD or microSD card will do.

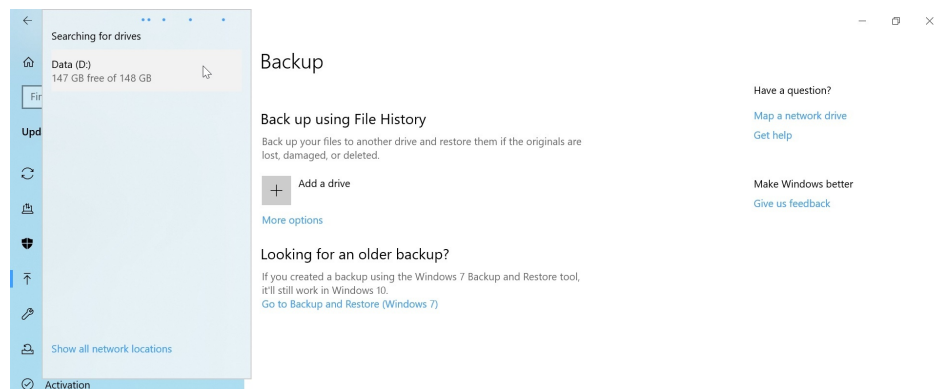


You should enable File History backup if you are concerned with the integrity of your documents and other personal files and might need to recover previous versions of those files.

File History works with specific folder locations by default. It will back up all of the files you’re syncing with OneDrive, your Desktop, Documents, Music, Pictures, and Videos folders, and several other locations. You can remove any of these folders from the backup if you’d like, however, and add others.

## Enable and configure File History

To get started with File History, you will need a storage device, separate from that used by Windows, on which to store the backups. This will typically be a second internal (HDD/SSD) or external (USB) storage device. Once this is made available to your PC, navigate to Settings > Update & security > Backup. Then, select “Add a drive” and you will be presented with a list of acceptable backup storage devices.



If you have a tablet PC or other portable PC, you can use an SD or microSD card, if available, for File History.



You can also navigate to this view if you insert a new storage device and choose “Configure this drive for backup” in the AutoPlay window that appears.

With the drive selected, the option “Automatically back up my files” will be set to On. Now, you should configure File History options. To do, select the link “More options.”



Here, you can take the following actions:

**Back up now.** Select this button to initiate a manual File History backup.

**Make a schedule.** Select the drop-down under “Back up my files” to determine how frequently File History backups occur: Every 10, 15, 20, or 30 minutes, every hour (the default), every 3, 6 or 12 hours, or Daily.

**Determine how long to keep your File History backups.** Select the drop-down under “Keep my backups” to configure how long File History backups are kept: Until space is needed, 1, 3, 6 or 9 months, 1 year, 2 years, or Forever (the default).

**Add or exclude folders from the backups.** File History backs up everything from a fairly long list of folders by default. But you can add folders you wish to include in these backups and, if desired, remove any of the default folders that are backed up.

**Back up to a different drive.** Select the “Stop using drive” button to disable File History on the configured drive and use a different drive. The File History backups will remain on the old drive, and you can access them with File History later if needed.

**Advanced settings.** You can access other File History settings using the legacy File History control panel by selecting the “See advanced settings” link. You almost certainly won’t ever need to do this.

**Restore files from a backup.** You can use the “Restore files from a current backup” link to browse your File History backups and restore files as needed. This is such an important function that it’s covered separately in the next section.

## Restore an earlier version of a file

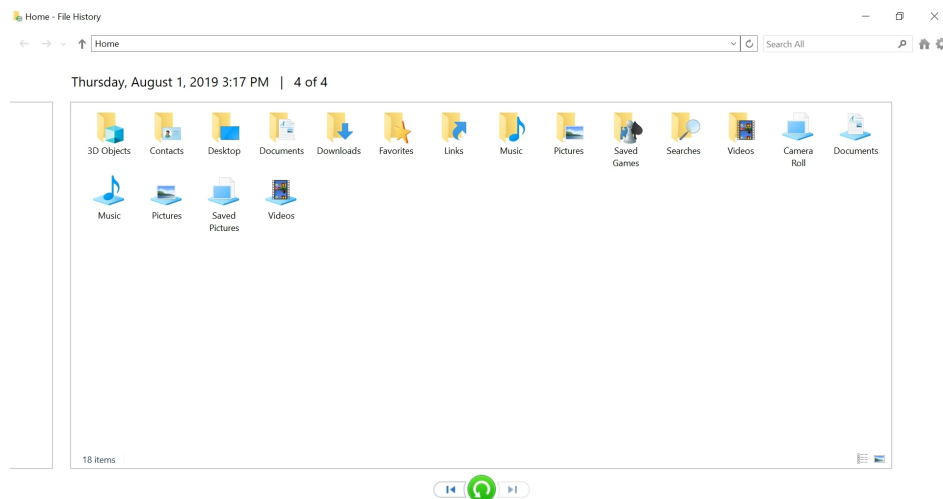
For the most part, File History is a “set it and forget it” feature: It will run automatically in the background, backing up your files as well as each version of those files as they’re changed. But you may eventually need to recover an earlier version of a file that is being backed up by File History.

You do so using the File History control panel, which is accessible from File History in Settings: Just select the “Restore files from a current backup” link at the bottom of the Backup Options page.



There is a quicker way. Using Start Search, search for *file history* and select the result “Restore your files with File History.”

The File History control panel lets you navigate between the various times at which File History backups were made.

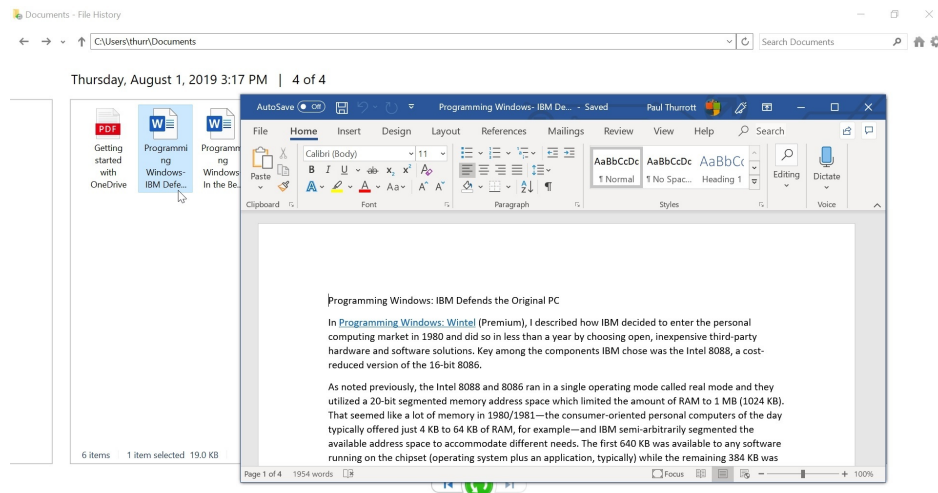


This interface lets you browse through the folders that are backed up by File History, and do so in whatever backups are available. The initial view is the most recent backup, but you can use the navigation buttons at the bottom of the window to “go back in time” and find older backup sets.

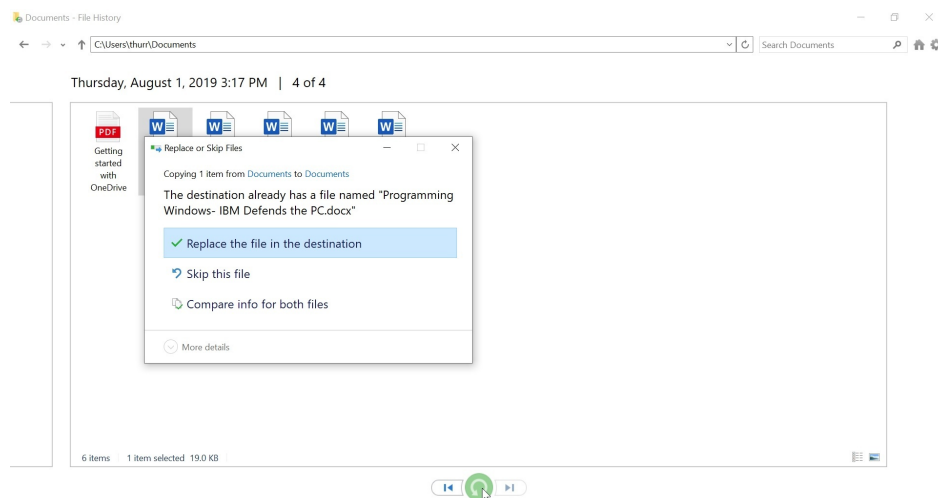
Beyond that, navigation works much like it does in File Explorer, and you can even switch the view between Details and Large Icon views.

When you find a file, folder, or set of files and folders you might wish to restore—yes, you can select multiple items at once—you can perform the following actions:

**Open or preview an individual file.** To open a file in File History, just double-click it normally, as you would in File Explorer. Files that can be opened, or previewed, in File History will directly within the control panel. If File History cannot preview the file, the application associated with that file type will do so instead.



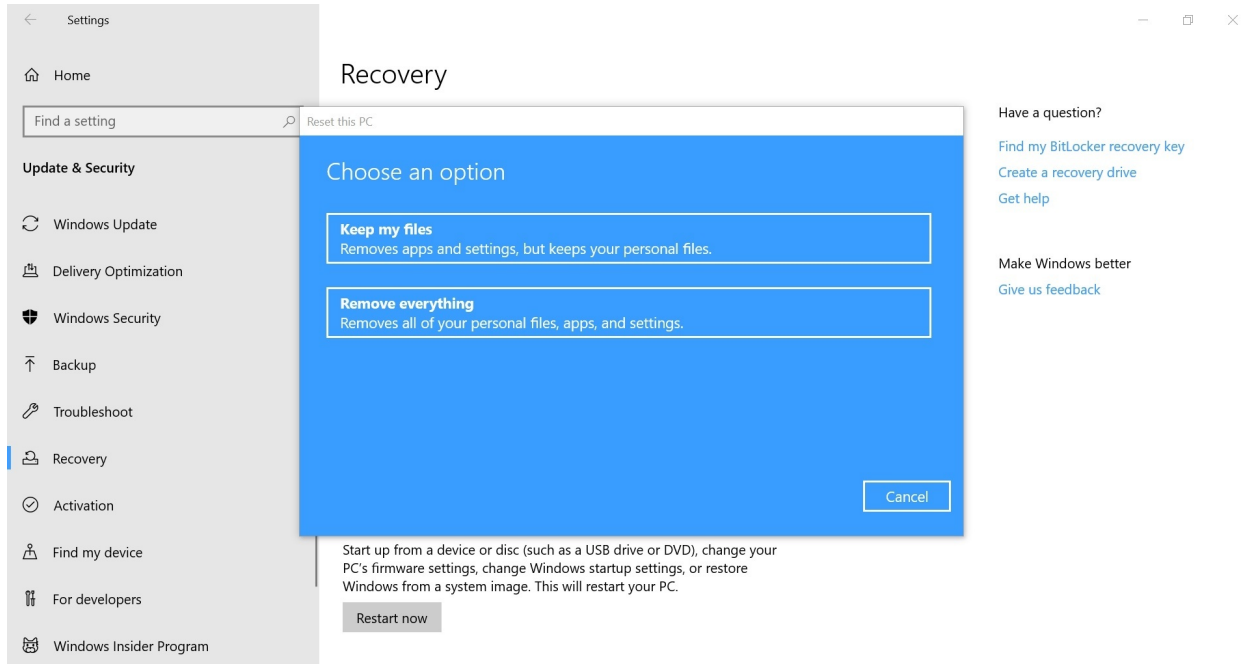
**Restore.** This option will restore the selected file(s) and/or folders to their original location. To do so, select the items you wish to restore and then press the big green “Restore to original location” button in the bottom of the window. You’ll be prompted about replacing any existing items if there are newer versions of those items there already.



If no items are selected, File History will restore all of the files in the current folder.

**Restore To.** This option lets you choose a new location to which to restore the selected file. This can be the safest approach when restoring a single file or small set of files, since you can compare the restored version side-by-side with the more recent version. To use it, select the Options menu (the gear) in the top right of the window and then choose “Restore to.”

# System Recovery



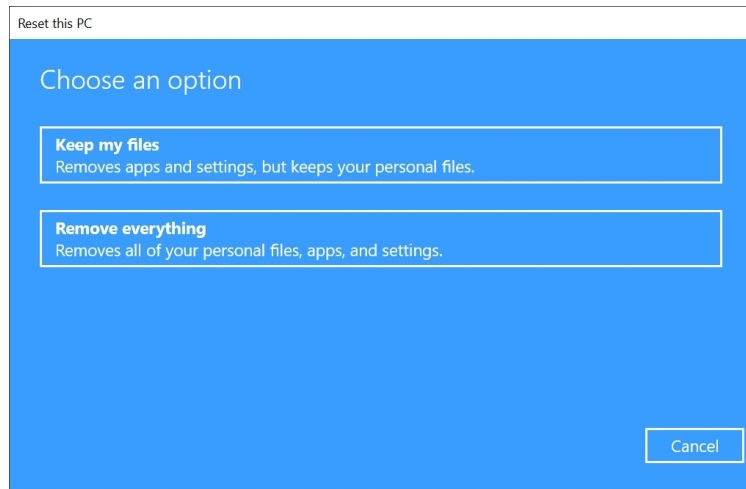
Windows offers a variety of modern tools that you can use to fix problems with the operating system or restore your PC to its original, factory-fresh state.

## Get to know the system recovery options

Everyone's needs are different. So which backup and recovery tool—or tools—you choose will depend on the situation. You can, of course, mix and match, and use two or more of these tools to ensure that your your PC is always protected.

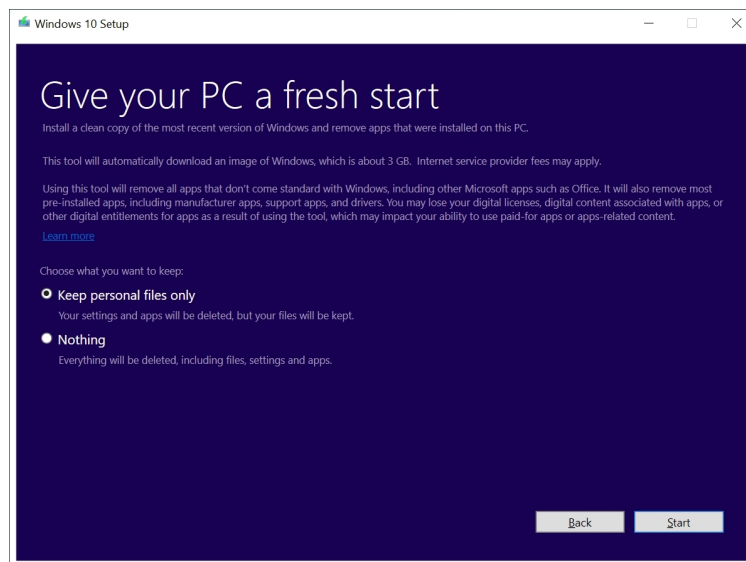
Here's an overview of the tools, and when you should consider using each.

**Reset this PC.** This system restore tool lets you wipe out your PC and very quickly return it to its original factory condition, while optionally saving your documents and other data files as well as your installed Microsoft Store apps. (Any installed desktop applications are removed.) Reset this PC can be customized by your PC maker so that it will include their bundled apps and utilities too. And the image it uses to reset Windows is updated to the late OS version each time you install a feature update.



Reset this PC is the core Windows system recovery tool and is valuable in a number of situations. For example, Reset this PC can be used to securely clean the disk during a re-installation of the operating system. That can be very useful if you need to give away or sell the PC to another person.

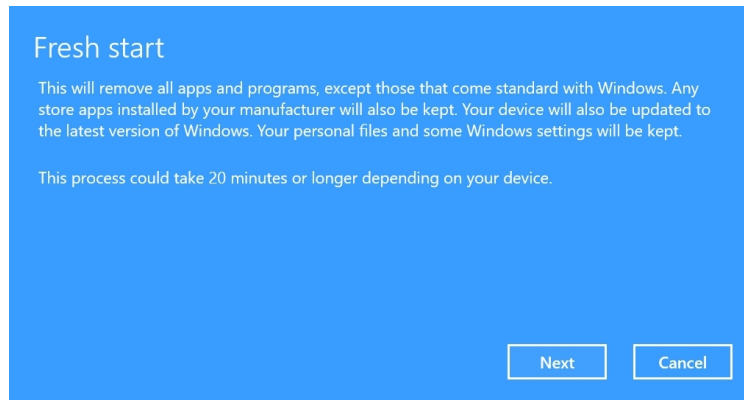
**Refresh Windows.** This web-based tool works much like Reset This PC, but it downloads the latest version of Windows 10. Also, because this tool comes directly from Microsoft, it will not include any PC maker-supplied bundled apps or customizations.



We don't cover Refresh Windows in this book because it is not included with Windows. But if you're familiar with how Reset this PC and Windows Setup work, Refresh Windows will be very familiar. [Refresh Windows is available from the Microsoft website.](#)

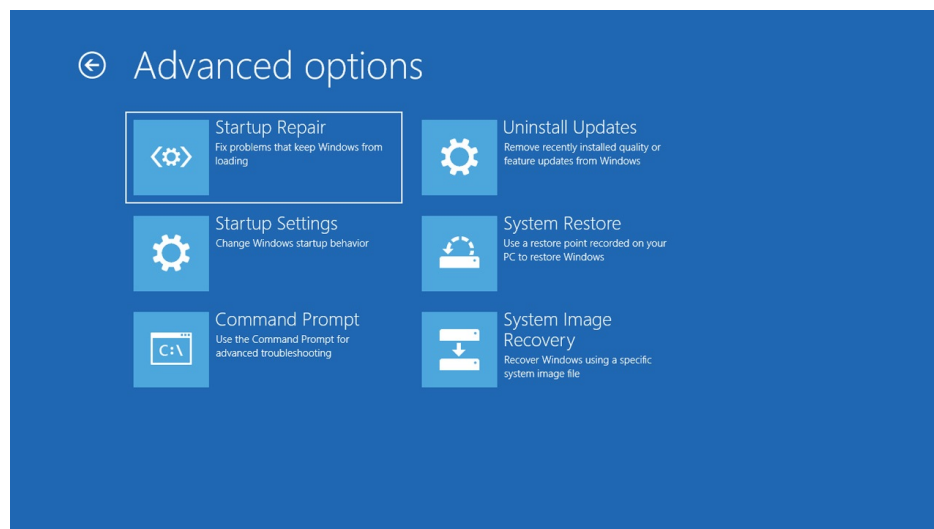


**Fresh start.** This streamlined version of Reset this PC retains your documents and other personal files, some settings, and your installed Microsoft Store apps. (As with Reset this PC, you will still need to reinstall any desktop applications you use.)



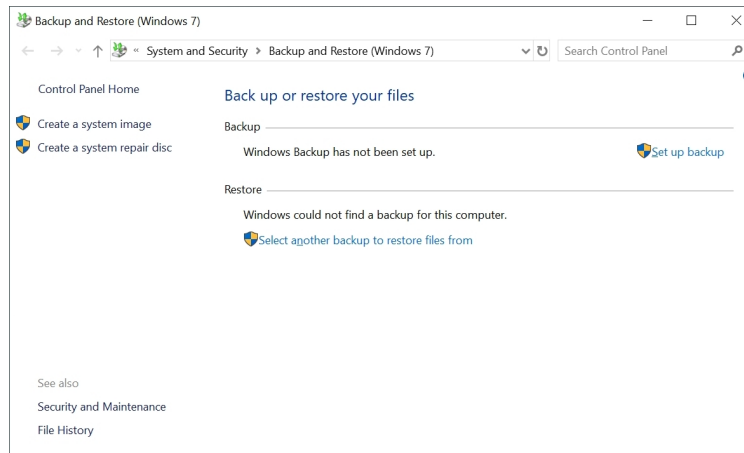
Fresh start is like spring cleaning for your PC, and it can be used to clean up a buggy or slowly-performing Windows install with minimal disruption. If this doesn't give you the desired results, you can always turn to Reset this PC next.

**Windows Recovery Environment.** Windows PCs can boot up in a troubleshooting mode that provides advanced recovery tools to help you fix problems with the PC, access its firmware, change startup settings, and more. It is accessible directly from your PC's hard drive, from your Windows Setup media, or by using a special USB-based recovery drive that you will create.



The Windows Recovery Environment is pretty much for emergencies only. Perhaps your PC isn't booting up properly (or at all), or you can't access the recovery tools that are built-in to Windows itself.

**Backup and Restore.** This legacy tool provides full system image backup and recovery functionality. It can be used to create a backup of your entire disk, including the installed OS, all applications (both Store apps and desktop applications), and all of your data and settings if you'd like.

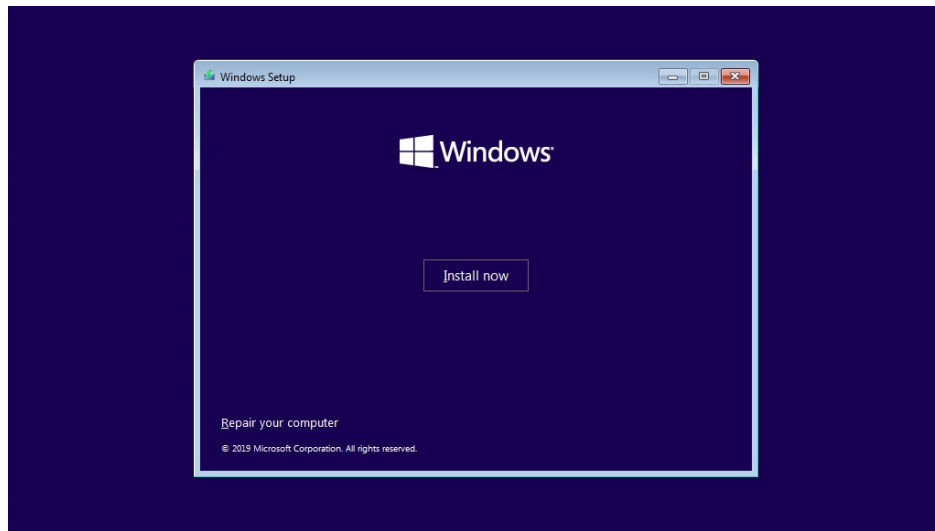


We do not recommend using Backup and Recovery for system backups because this tool has been deprecated by Microsoft and is no longer being updated. It's still included in Windows for those people who did create backups in the past, and you can still use it to recover the PC using one of those backups.



Because of its diminished status, we do not cover Backup and Recovery in this book.

**Windows 10 Setup.** [Microsoft lets you download the latest version of the Windows 10 installation routine](#), called Windows 10 Setup, using its Media Creation Tool. The resulting install media provides two types of system recovery. You can use this disk to access the Windows Recovery Environment through the Repair your computer link. (Or you can install Windows 10 from scratch, overwriting whatever is on the PC.)



You can learn more about Windows 10 Setup in the chapter *Clean Install Windows 10*.



You should always keep at least one USB-based Windows 10 install disk at the ready.

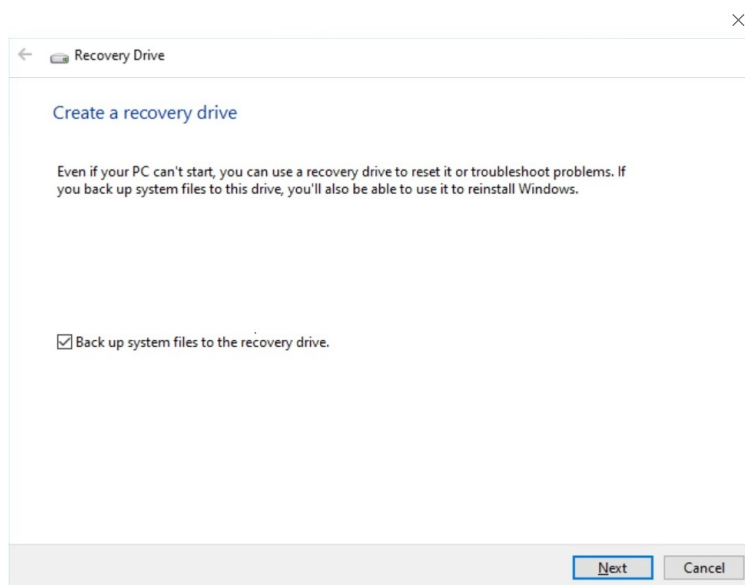


Most PC makers also provide their own system recovery tools. We do not cover this software, which is unique to each PC maker, in this book. But we do recommend that you create recovery media using whatever tools your PC maker supplies for all the obvious reasons.

## Create a Recovery drive

Before getting started with any of the recovery tools included with Windows, you should create a USB-based *recovery drive* that can be used to boot your PC into a Windows Recovery Environment. This is important because it can be used when Windows isn't booting normally, or at all, you need to troubleshoot the problem.

To create a recovery drive, use Start Search: Type *recovery* and select “Create a recovery drive” from the results pane. The Recovery Drive wizard appears.



In this initial window, you will see an option titled “Back up the system files to to the recovery drive.” It’s enabled by default, and if you leave it as-is, you’ll need a larger recovery drive. But there’s a big benefit to doing so: you’ll be able to use Reset this PC from the recovery drive in addition to accessing the other Windows Recovery Environment tools.



The minimum size for Recovery drive media without the recovery partition is 256 MB. If you opt to include the recovery partition, you’ll need a disk with a capacity of at least 16 GB.

Select the Next button.

In the next phase of the wizard, you will select a USB flash drive and then be warned that the contents of the drive, if any, will be deleted during the creation process. Click Next and the recovery drive is created.

To use the Recovery drive, you will need to interrupt your PC’s normal boot procedure and then select the USB-based Recovery drive from a menu. Or, you can configure it to boot from USB-based media before its internal storage. Since this process varies from PC to PC, please consult with your PC’s documentation.



Be sure to accurately label your Recovery drive and keep it in a safe place. Indeed, it’s not a horrible idea to create a few of them: Better safe than sorry.

## Reinstall Windows and start fresh

Confusingly, Windows 10 provides two different full-featured system recovery tools—Reset this PC and Fresh start—that differ from each other only subtly.

These tools, and the subtle differences between them, are described earlier in the chapter. Here, we will examine how Reset this PC and Fresh start work.



**Be prepared.** These tools are inherently destructive, since they will both wipe out your current Windows installation and reinstall the OS from scratch. As such, you should proceed carefully: Back up any important documents and other personal files, and prepare to reinstall any desktop applications you use (and have, on hand, any required product keys). Note, too, that you should create a recovery drive—described earlier in this chapter—before using any of these tools.

## Reinstall Windows quickly with Reset this PC

Reset this PC is a powerful Windows feature that lets you return your PC to the condition it was on the day you first bought it. (Well, for the most part. If you’ve installed any feature updates since the, the image that Reset this PC uses will have been updated to that Windows version.) And you can optionally do so somewhat non-destructively—where you retain all of your documents and other personal data, as well as your installed Microsoft Store apps—if desired.



Reset this PC can backup and restore Microsoft Store apps only, not legacy desktop applications. So you’ll need to reinstall those applications manually if you reset your PC.

Reset this PC offers two modes of operation:

**Keep your files.** Here, Windows is “refreshed,” meaning that the operating system is wiped out and then reinstalled, but your user account and its documents and other data are retained, along with any Microsoft Store apps you may have installed. Desktop applications are deleted and will need to be reinstalled manually.

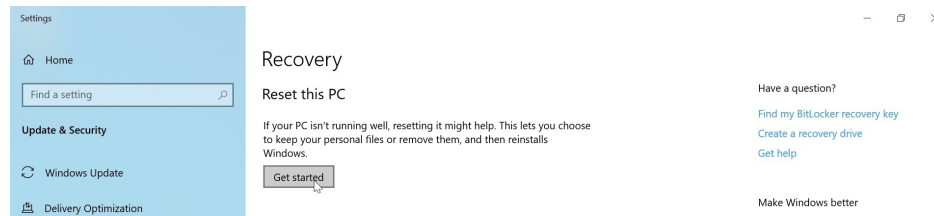
**Remove everything.** Here, Windows is “reset”: Everything on your PC—your data, settings, applications, whatever—is deleted and Windows is reinstalled, bringing your PC back to the way it was when you first received it. You will need to create an account as if it were the first time you’ve ever used the PC and then reinstall any apps you wish to use.



There’s one other issue to consider here, or any other time you reinstall Windows. Some desktop applications, like Adobe Premiere Elements, use activation schemes to ensure you’re not pirating the software. Be sure to **deactivate these applications *before* you use Reset this PC**, or you could lose an activation.

What’s particularly nice about Reset this PC is how fast it works—usually in under 20 minutes, unless you select to fully clean the PC as well, an option that is only provided by the “Remove files and clean the drive” option.

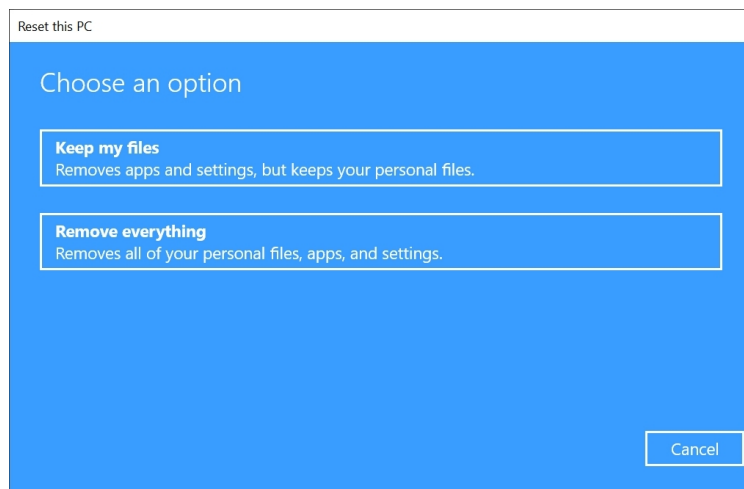
To find Reset this PC, open Settings and navigate to Update & security > Recovery. Or you can access it via the Windows Recovery Environment that's described in the next section. We'll examine the Settings-based procedure here, but both methods work similarly.



Just to be clear, Reset this PC will delete *everything* on your PC and then reinstall Windows. Yes, there is an option to keep your data, documents, and some apps, but this is still a destructive process. So be sure you've backed up anything important before proceeding.

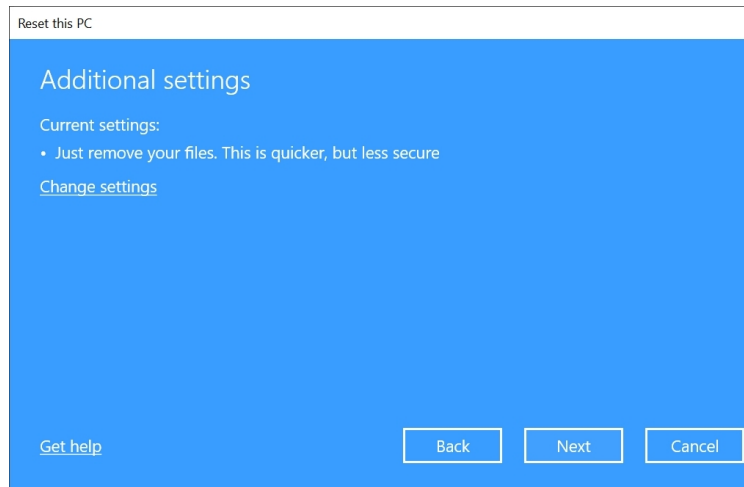
Select the Get started button under “Reset this PC.”

Reset this PC will prompt you to choose between the two operation modes.

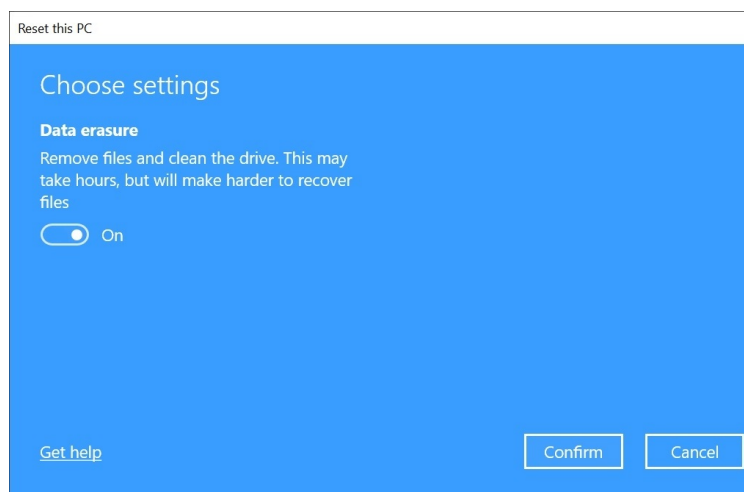


If you upgraded a PC from an older Windows version to Windows 10, you may see a third option, Restore factory settings, which can be used to reset the PC to your previous Windows version. This option is only available temporarily.

If you choose Remove everything here, Reset this PC will prompt you to tell you that it will “just remove your files” by default; it won't perform a more secure deep-cleaning of the drive to ensure that all of your data is overwritten.

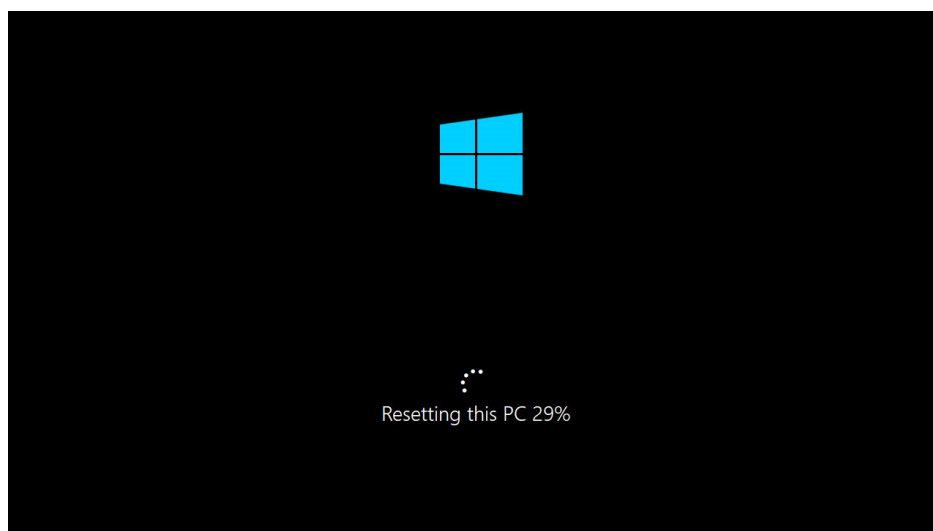


This is fine if you're just doing this for yourself and you will continue using this PC yourself. But if you're cleaning the PC so you can sell or give it away, select the "Change settings" link instead. Here, you are given the option to fully clean the drive. Change Data erasure to On if this is what you prefer.



If your PC has more than one physical drive, you will also be asked if you wish to remove files from all of the drives. Be careful here, especially if you are using a secondary drive for data that you don't want erased.

The PC will reboot and perform the refresh or reset procedure.



When this completes, the PC will reboot again and go through a process that is very similar to the end stages of Windows Setup, as described in the *Install Windows 10* chapter.

If you opted to keep your files—to “refresh” the PC—you will eventually be presented with the lock screen, from which you can sign-in normally. When you navigate to the desktop, you will find a web document called Removed Apps that will list the desktop applications you previously had installed on this PC and, when possible, hyperlinks so that you can find them on the web and reinstall them. (Your installed Store apps are available normally.)

If you chose to remove—“reset”—everything, the PC will reboot again and you will step through Windows Setup’s Out of Box Experience (OOBE), which is also described in the *Install Windows 10* chapter. During this wizard-like interface, you will personalize the PC with a name and color scheme, choose between express and custom settings, sign in, and then, after the system’s bundled apps are installed, you will be presented with your new and hopefully very clean (based on the whims of your PC maker) desktop.



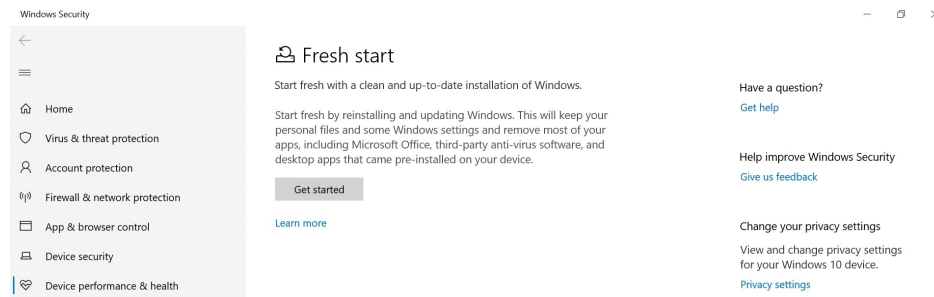
Please refer to the *Install Windows 10* chapter for a rundown of the post-install tasks you should perform at this time.

## Clean up Windows with Fresh start

Fresh start is a streamlined version of Reset this PC that only provides that tool’s “refresh” functionality. That is, it will reinstall Windows, but retain your user account, its documents and other personal data, some settings, and your installed Microsoft Store apps.

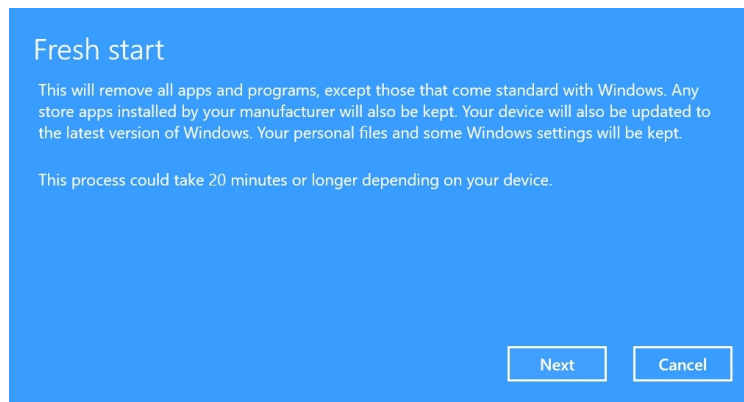
Fresh start is available in the Windows Security app. But you can also find it via a link in the Settings app. To do so, navigate to Settings > Update & security > Recovery and select the link “Learn how to start fresh with a clean installation of Windows.” Windows Security will open to its Fresh start page.



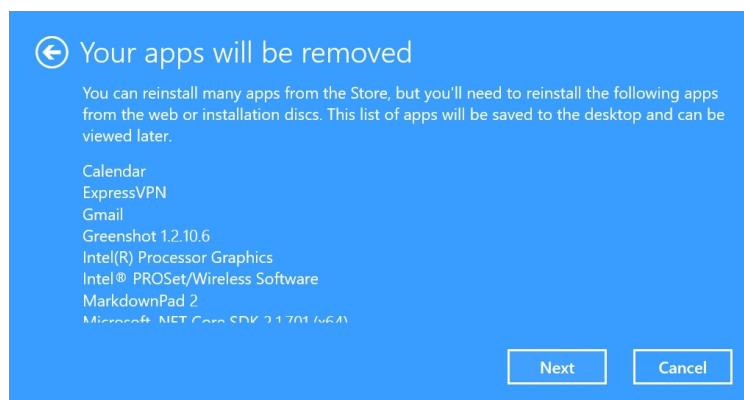


You can also launch Windows Security directly, navigate to Device performance and health, and then select the “Additional info” link under Fresh start.

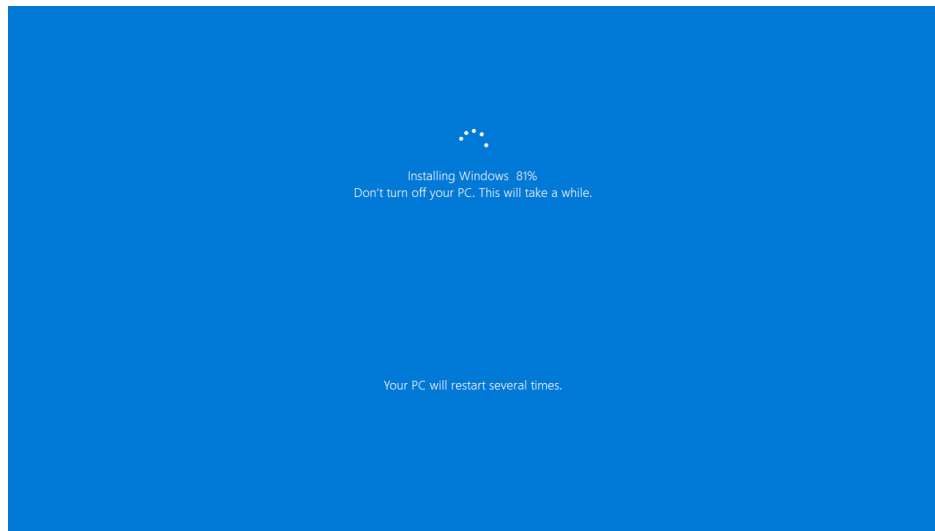
To begin, select the Get started button. A Fresh start notification window appears.



Select the Next button. In the next page of this pop-up window, you’ll be told which (desktop) applications will be removed as part of this operation.



After moving past this, you can select the Start button in the pop-up window. Then, your PC will restart, Windows will be reset, and your documents and other personal files, some settings, and your installed Store apps will be restored.



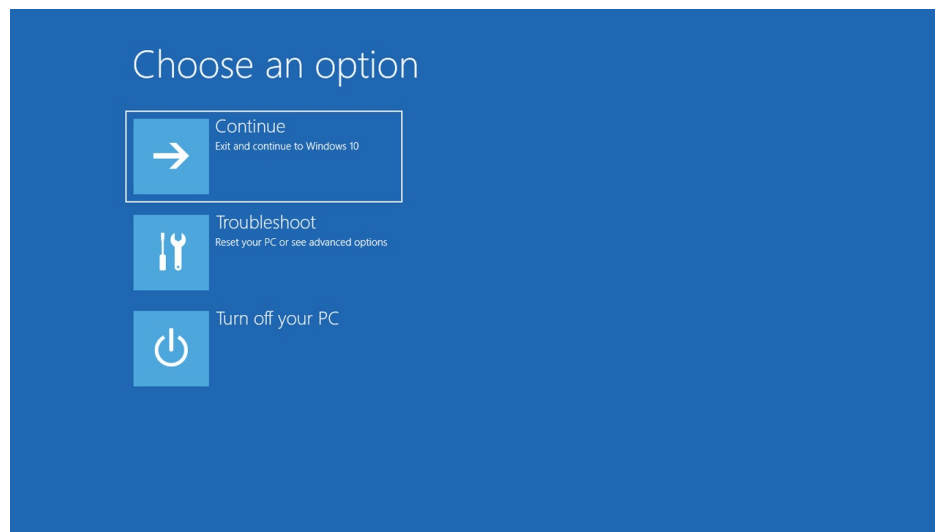
Please refer to the *Install Windows 10* chapter for a rundown of the post-install tasks you should perform when this process completes.

## Perform advanced recovery tasks with the Windows Recovery Environment

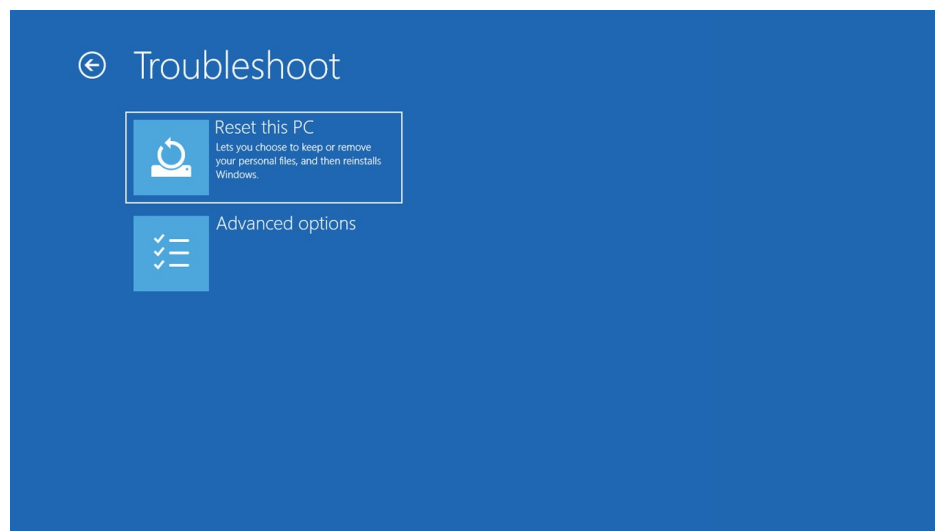
Windows lets you optionally boot your PC into the Windows Recovery Environment, which contains advanced troubleshooting and recovery tools. This environment can be very useful if something goes wrong with your PC.

### Boot into the Windows Recovery Environment

The easiest way to get to Windows Recovery Environment is from within Windows: Navigate to Settings > Update & Security > Recovery and select the Restart now button under Advanced startup. After the PC reboots, the Choose an option screen appears.



Here, select the Troubleshoot tile to access the available recovery tools.

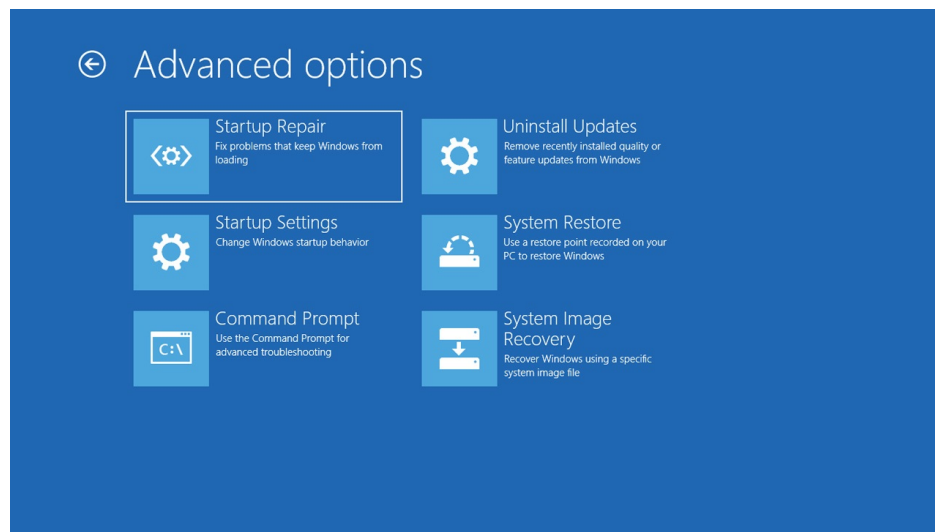


That method works fine if Windows is working. But if there's something wrong with the PC and it won't boot normally, you can also use a USB-based recovery drive to boot into the Windows Recovery Environment. We describe how to make one earlier in this chapter.

## Use the advanced recovery tools

When you boot your PC into the Windows Recovery Environment, you can access Reset this PC or the advanced recovery tools described below.

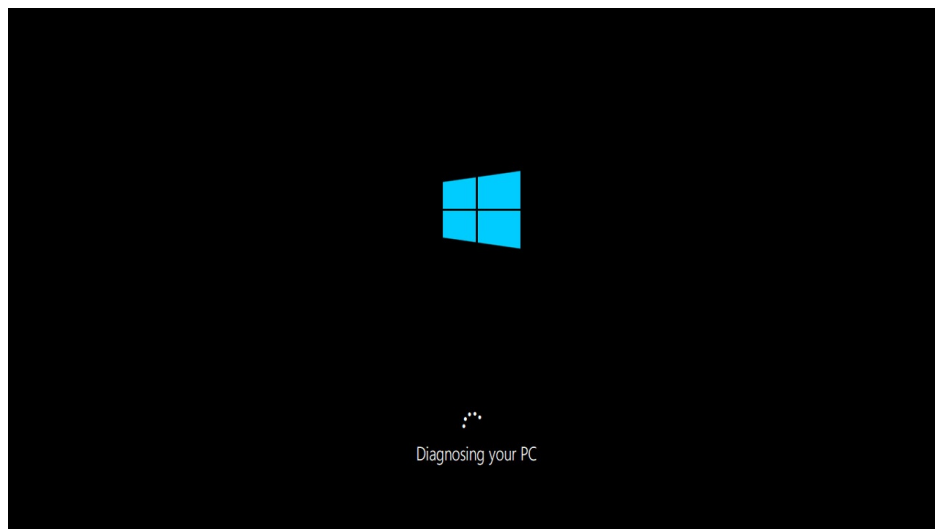
To access the advanced recovery tools, boot into the Windows Recovery Environment and then navigate to Troubleshoot > Advanced options.



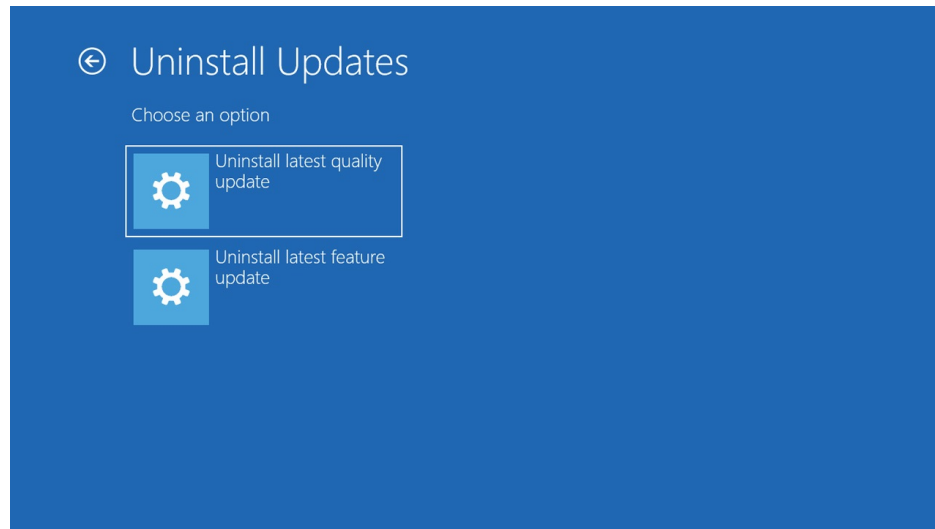
Many of the advanced recovery tools require you to sign-in to an administrator account. So you will need those credentials at the ready.

What you see listed here will vary somewhat based on the capabilities and configuration of your PC. But you should be able to access most of the following tools.

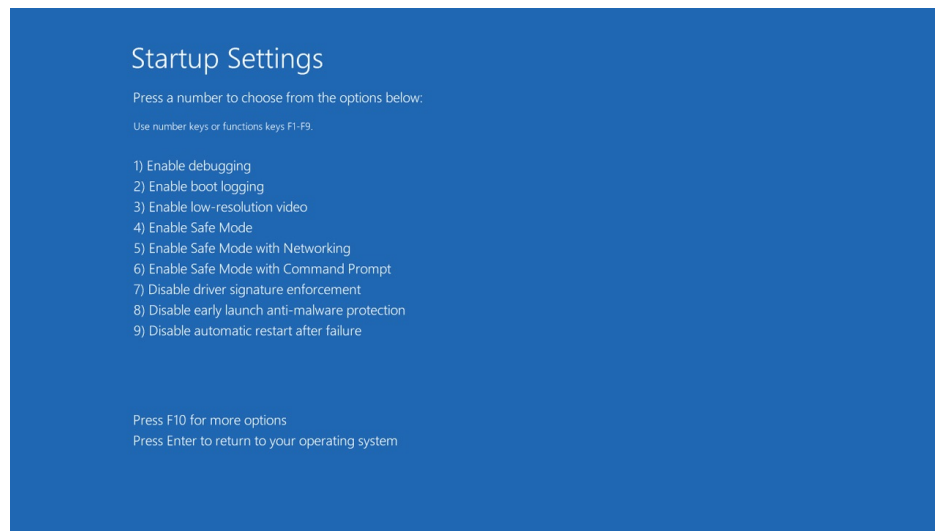
**Startup Repair.** If your PC is not booting properly, you can use this automated tool to fix the problem. Startup Repair doesn't have any options per se, it just diagnoses the PC, finds and fixes any problems, and then reboots the PC normally.



**Uninstall Updates.** Here, you can uninstall the latest quality update or feature update if you've run into issues since either was installed. After choosing which type of update to uninstall, the PC will reboot and you'll be prompted to provide the password for an Administrator-class user account.



**Startup Settings.** As the name suggests, this tool lets you change various startup settings. It's useful when you can't boot into Windows, of course, but also for those times when you can successfully boot into Windows, but the system isn't working correctly. After selecting the Restart button in the initial display, the PC will restart and then a new menu of debugging options will appear. From here, you can choose any of the available options by pressing the corresponding number on your keyboard. Note that you can only choose one option at a time and that the system will immediately reboot when you make your choice.

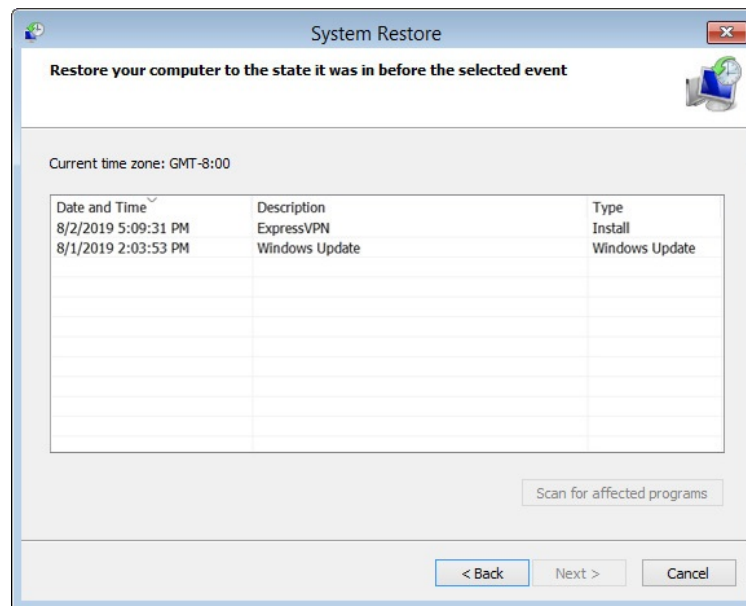


To reverse the effect of the selected change, simply reboot the PC again.

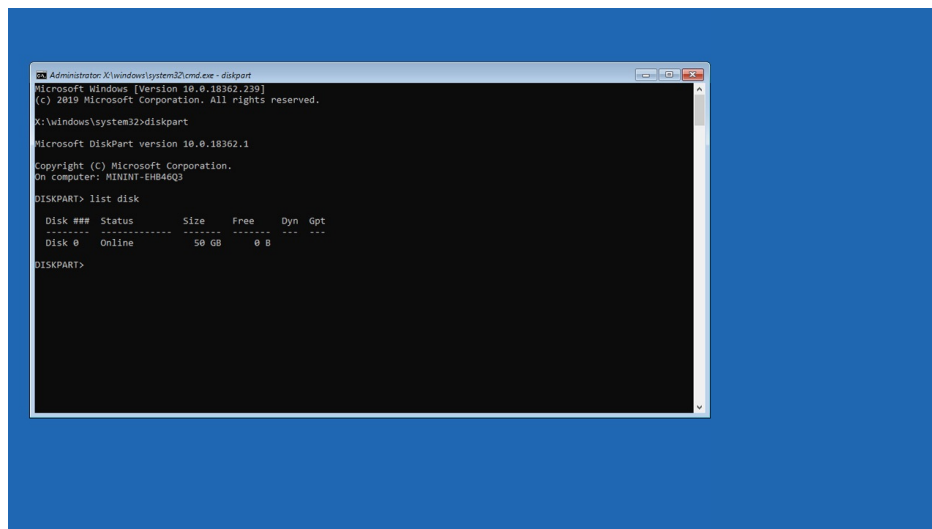
**UEFI Firmware Settings.** While most PCs provide their own way to boot into their Unified Extensible Firmware Interface (UEFI) firmware—what we used to call the BIOS—you can do so

more easily from this option in the Windows Recovery Environment.

**System Restore.** Windows includes a legacy recovery tool called System Restore which creates restore points whenever a driver or desktop application is installed so that you can restore the system to the point it was at before that software was installed. If you select this option, you can restore the system to a time before changes were made, and from outside of Windows. This is useful if the previous software change made it impossible to boot properly into Windows.



**Command Prompt.** Power users can use the MS-DOS-like command prompt to run advanced command line tools that will be familiar to system administrators, IT pros, and power users.

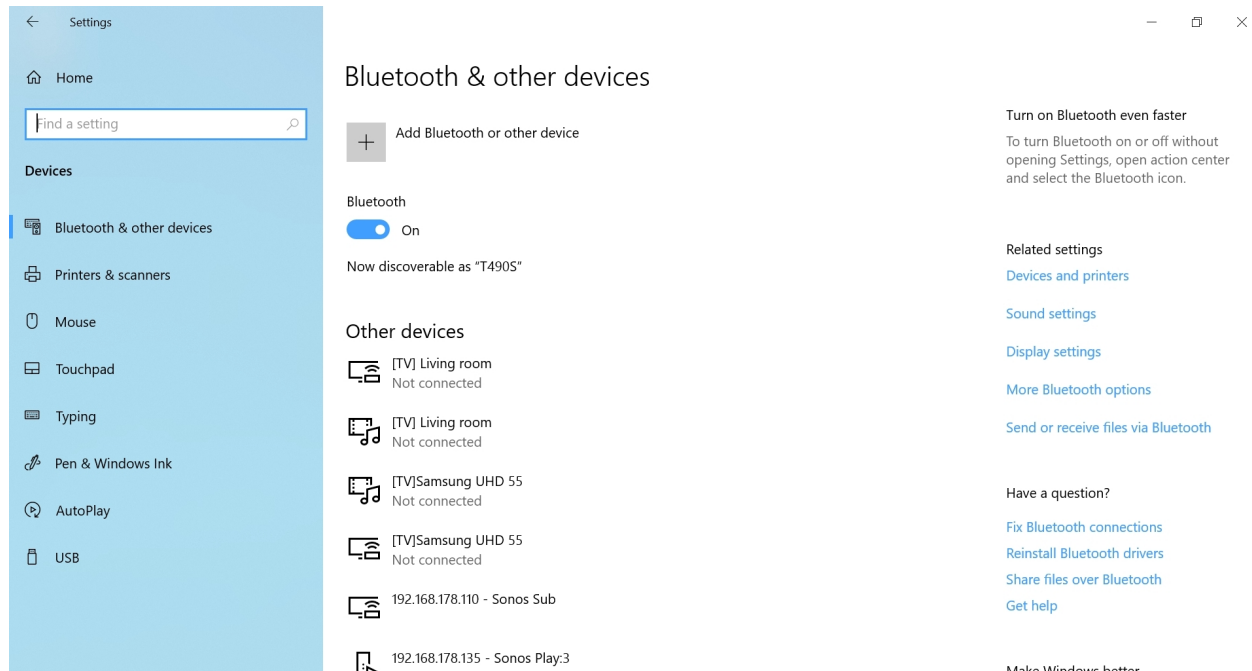


**System Image Recovery.** This tool lets you recover the PC using a backup that you created using the system image backup capabilities in Windows Backup in a previous version of Windows. We no

longer cover this legacy functionality in this book, however, because it is deprecated and no longer supported by Microsoft.

**Go back to the previous version.** If you have recently upgraded from an older version of Windows 10 to a newer version by installing a feature update, this option will let you go back to that previous version without losing any data or installed apps.

# Devices



Your PC is compatible with a wide variety of external hardware devices, including keyboards, mice and touchpads, removable and remote storage, printers, multiple displays, and more. Many of these devices will work with little or no intervention on your part.

## Get to know Devices settings

You configure devices in Devices settings. To find this interface, navigate to Settings (WINKEY + I) > Devices.

Devices settings provides several pages for specific types of devices. We will be discussing most of these pages in this chapter.

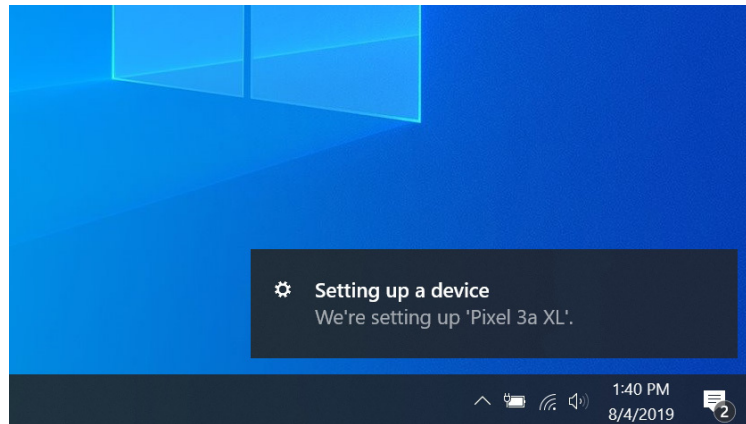


The Mouse and Touchpad pages will only appear when your PC is connected to that type of hardware. Pen & Windows Ink, curiously, appears regardless of whether your PC supports those capabilities.



## Connect a device

When you connect a new hardware device to your PC, Windows will try to install a basic *class driver* so that you can begin using it right away. You will typically see a notification banner alerting you to this change.

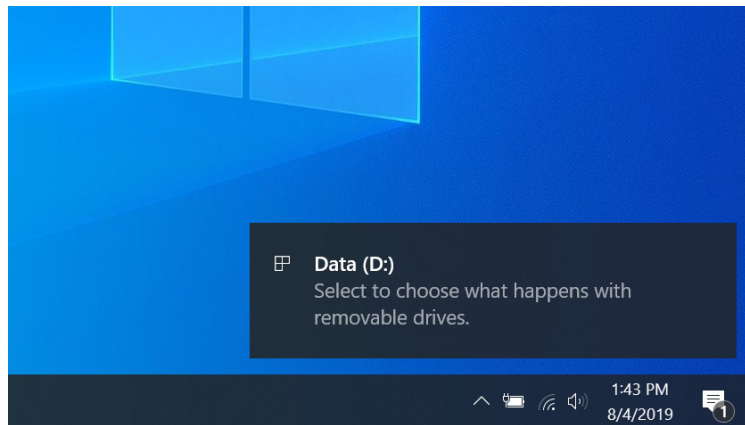


Windows will then look to Windows Update for better or updated drivers and other software. So you should consider visiting Windows Update after connecting a new device to see whether updated drivers are available. (As you probably know, Windows Update can be found by navigating to Settings > Update & security > Windows Update.)

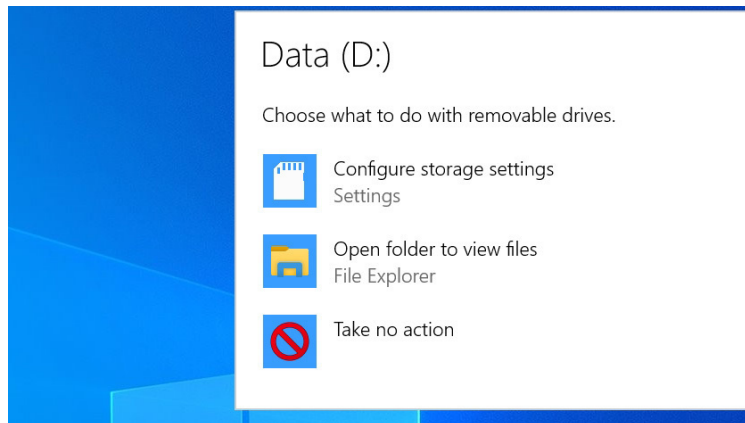
Sometimes, you will find a newer or better driver from the device maker's website. This is especially true for video and printer drivers, which are often accompanied by custom software applications that let you take full advantage of the underlying hardware.

## Determine what happens when you connect a removable device

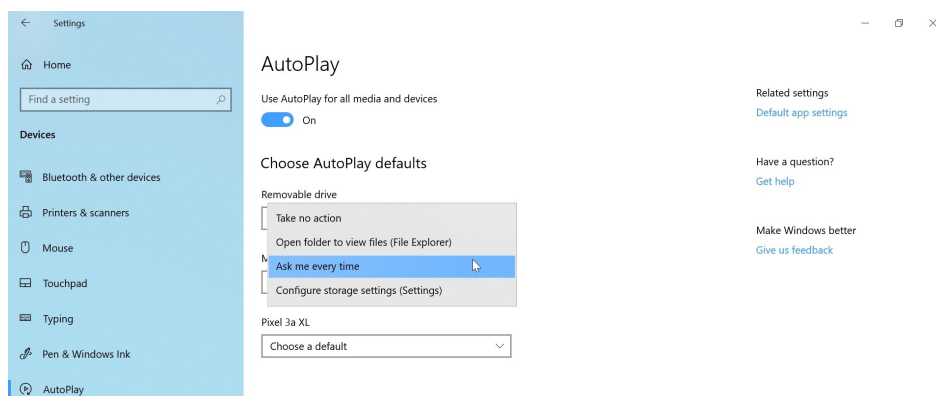
When you first connect a *removable device*—like a USB hard drive, memory card, or smartphone—you will be presented with an AutoPlay notification asking if you would like to perform a certain action each time that device is connected.



Select this notification to see a menu of available choices, which can include performing various actions plus a final choice, “Take no action.”



If you miss the notification or want to change your choice later on, navigate to Settings > Devices > AutoPlay and then select the device type in the list and make a new choice.



## Pair a Bluetooth device with your PC

You can connect, or *pair*, a Bluetooth device with your PC with the Bluetooth & other devices page in Devices settings. Bluetooth devices are different because they utilize a so-called *personal area network*, or PAN, that pairs two devices to each other, like a Bluetooth-based keyboard, mouse, or other device and your PC.

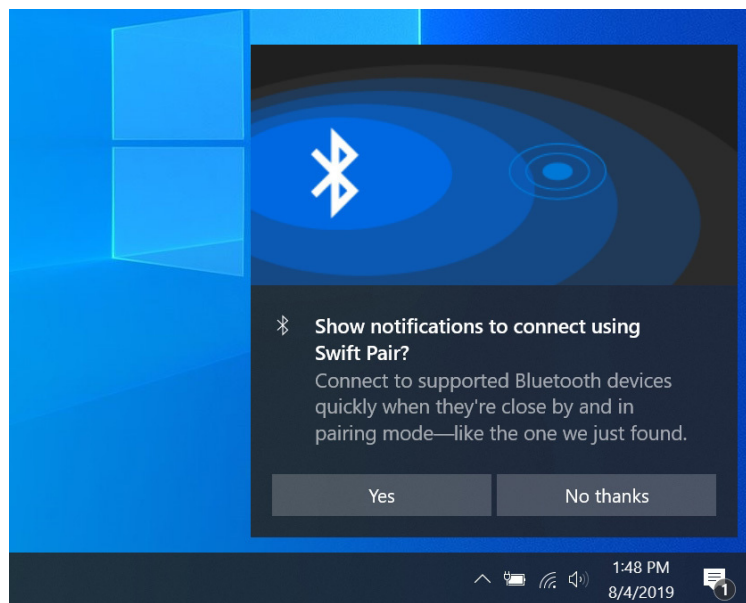


Your PC must have a Bluetooth radio to connect with Bluetooth peripherals. These are common in portable PCs but less common in desktop PCs.

To add (pair) a new Bluetooth device, press and hold on the Bluetooth pair button on the connecting device. (Check with the manufacturer's documentation if you can't find this.)

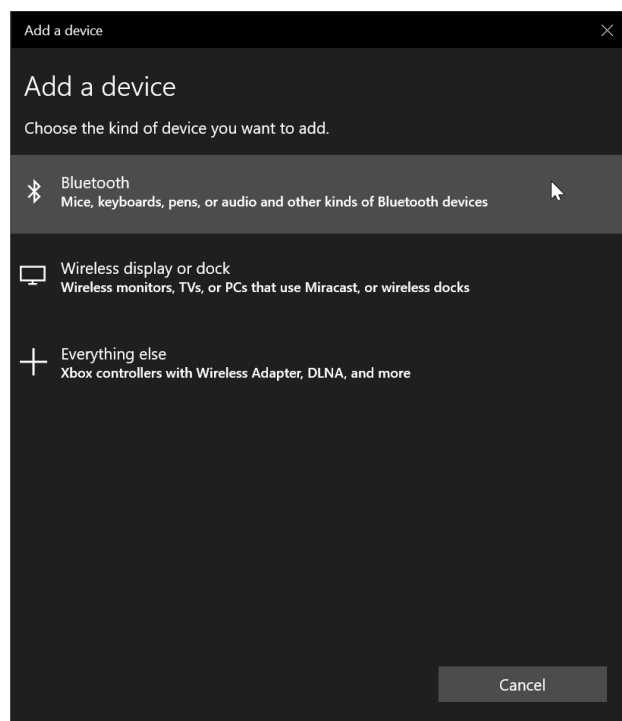


If the device supports a Bluetooth feature called Swift Pair, Windows will notify you and offer to connect automatically.

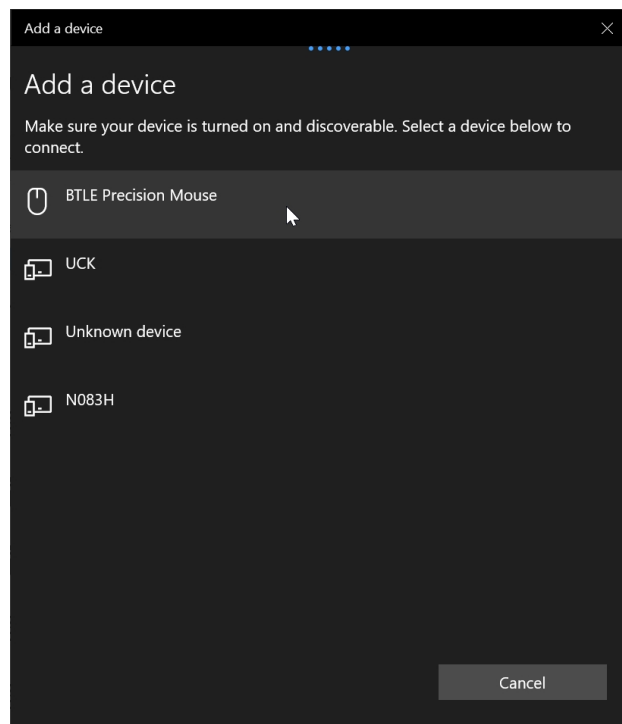


Select Yes and then Connect when prompted.

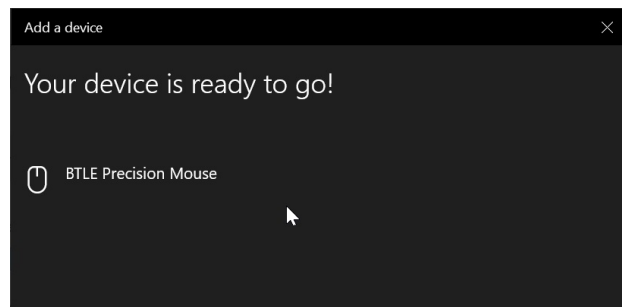
Otherwise, navigate to Settings > Devices > Bluetooth & other devices on your PC and select “Add Bluetooth or other device.” The Add a device window appears.



Select Bluetooth. The window will display a list of available Bluetooth devices.



Select the device you wish to pair. After a short “Connecting” animation, you’ll be told that the new device is ready to use.



Some Bluetooth devices may require you to enter a PIN or password to complete the pairing process, but the process is straightforward.

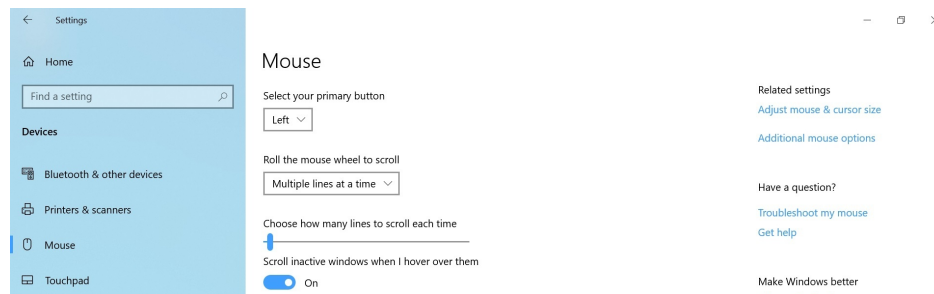
## Configure a mouse or touchpad

As you should expect, Windows works seamlessly with mice as well as other pointing devices like touchpads. For the most part, you can simply plug in an external pointing device and it will just work.

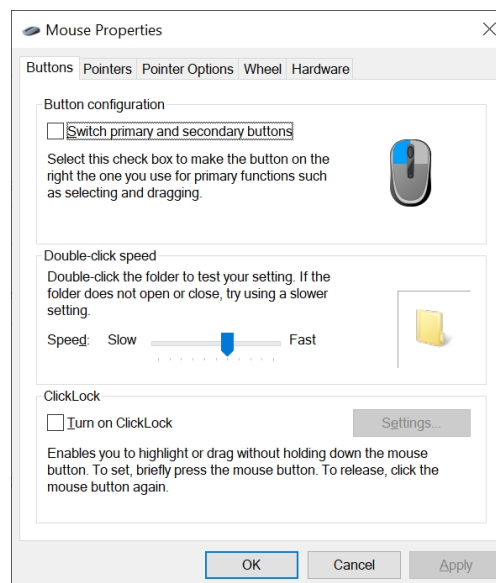
You can manage basic mouse and touchpad settings in Devices settings: Each pointing device type gets its own page. But the options you see here will vary from device to device, and according to their capabilities.

## Configure a mouse

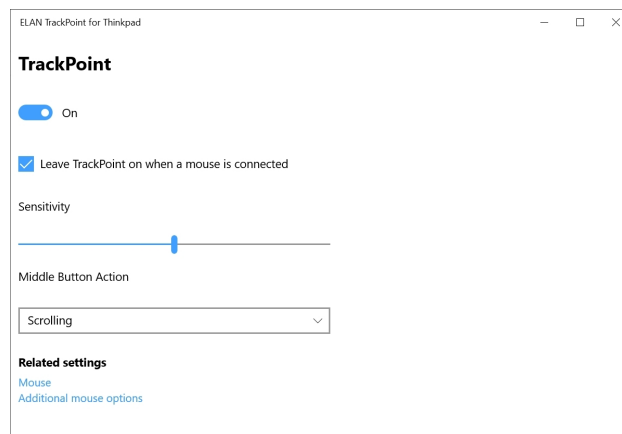
Mouse settings is particularly basic. Here, you can configure the primary mouse button, how the scroll wheel (when available) works, and a few other features.



You can also select the “Additional mouse options” link to access the legacy Mouse Properties control panel, which does indeed provide additional settings related to button and wheel configuration, the on-screen pointer, and more.



PC makers sometimes provide custom pointing device configurations too. For example, Lenovo lets you configure the TrackPoint pointing device on its ThinkPad laptops using a unique utility that is linked to from Mouse settings.



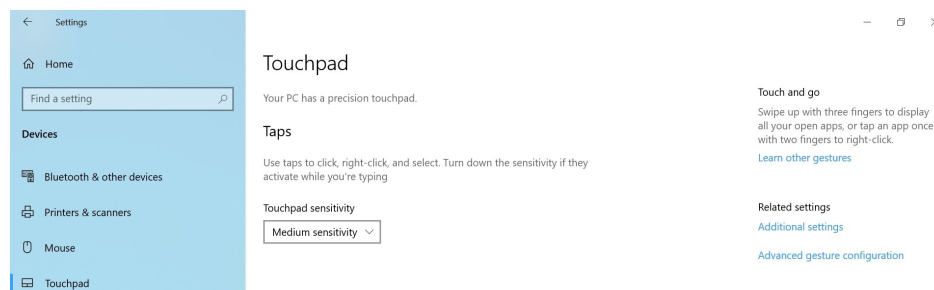
## Configure a touchpad

Laptops and other portable PCs usually include a built-in pointing device called a *touchpad*. These devices are configured separately from mice in Touchpad settings (Settings > Devices > Touchpad). And what you see here will vary by device.



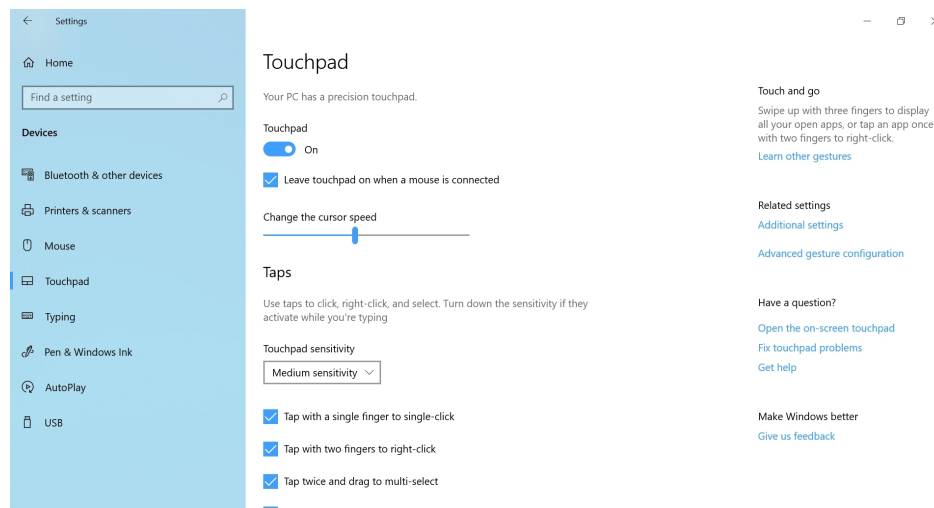
The name of this device changed from trackpad to touchpad because modern versions now support multi-touch gestures. So, in addition to moving your finger across its surface to move the on-screen pointer (“track”) you can now use gestures (“touch”) to perform more sophisticated actions.

At the very least—literally—you will one option, for touchpad sensitivity.



If this is all you see, then your PC maker will provide its own utility for configuring the touchpad. What form this takes will, of course, vary by PC maker. So see whether the “Additional settings” link provides a custom touchpad configuration interface in Mouse Properties. Otherwise, you will need to look through the Start menu’s All apps list for a separate utility.

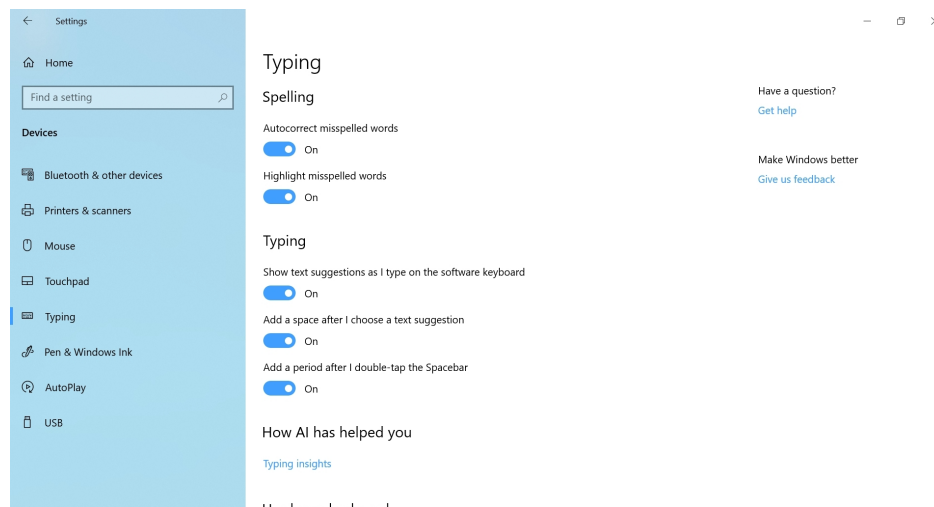
Microsoft has created a new standard for modern touchpads called *precision touchpad*. Used by Microsoft’s own Surface devices and by a growing list of PC makers, these touchpads offer many more advanced configuration options, including configuring two-, three-, and four-finger multi-touch gestures.



## Configure a keyboard

The Typing page in Devices settings lets you configure keyboards, including the touch keyboard that's available on tablets, 2-in-1s, and other touch-capable PCs.

You will see the Spelling, Typing, Hardware keyboard, and Multilingual sections on all PCs.



Touch-capable PCs will also include a Touch keyboard section with options for the on-screen touch keyboard that is included with Windows.



Oddly enough, you can still use the touch keyboard on a PC without a touch screen: To enable this, right-click the taskbar and select “Show touch keyboard button.” Doing so does not add the Touch keyboard section to Typing settings, however.



## Configure removable storage

Windows works well with removable drives including USB flash drives and hard drives, and memory cards like SD and microSD cards. Removable storage works like any other removable device, and when you connect this type of device to your PC, you will be prompted with an AutoPlay notification as described earlier in this chapter.



Some other devices, like smartphones, can be connected to your PC and accessed as if they are removable storage as well.

As you may know, Windows is configured by default to use special folders in your user account folder—Documents, Music, Pictures and Videos—to store documents and different types of media files, respectively. On most PCs, this system makes sense, and there's no reason to reconfigure anything.

But some PCs have two or more attached storage devices. For example, a gaming PC might have a fast but relatively small SSD drive for the system disk and then a bigger but slower traditional hard drive for storing games. Likewise, modern tablets, Ultrabooks, and other portable PCs often include a microSD card slot or similar so you can augment the on-board storage with a memory card.

In such cases, you can optionally configure Windows to automatically use the memory card or other removable storage device instead of the on-board storage for your documents, music, pictures and videos.

This configuration change is described in the section *Configure where new content is stored* in the *Files and Storage* chapter. But if you navigate to Settings > System > Storage > Change where new content is stored, you can configure where your content is stored.



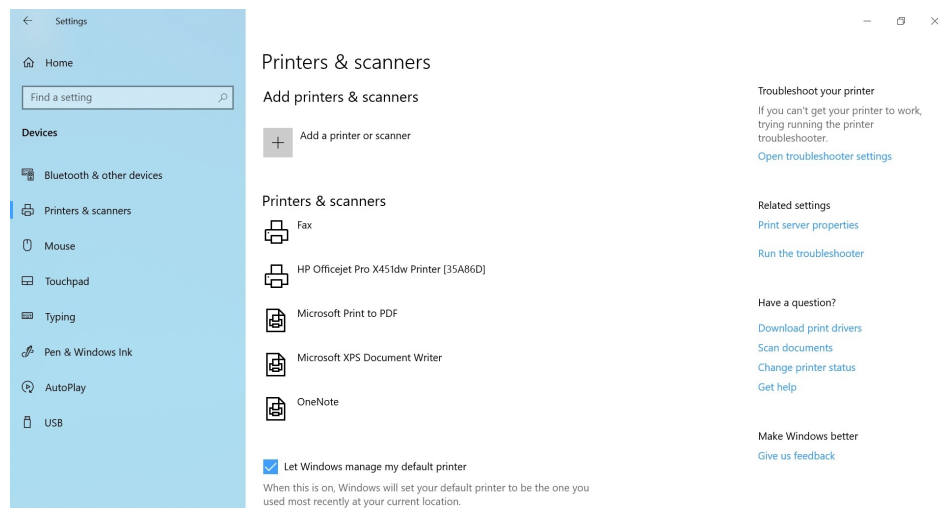
You can also use OneDrive for your documents and other data files. This, too, is discussed in the *Files and Storage* chapter.

## Configure a printer

Windows supports the same traditional printing capabilities that it has for years, and printers works much as they always have. But there is one new wrinkle: Now you can print to PDF files as well as to hardware printers.

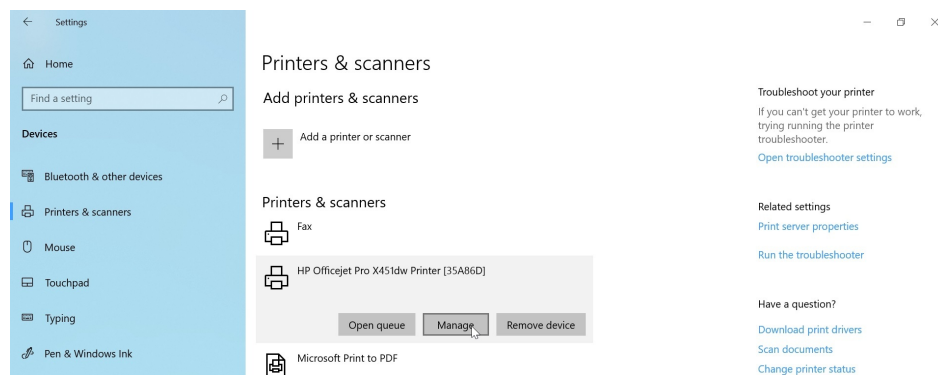
### Configure printer options

Printers & scanners settings—available by navigating to Settings > Devices > Printers & scanners—provides only basic printer controls: You can add new printers here, but there's little in the way of printer configuration.

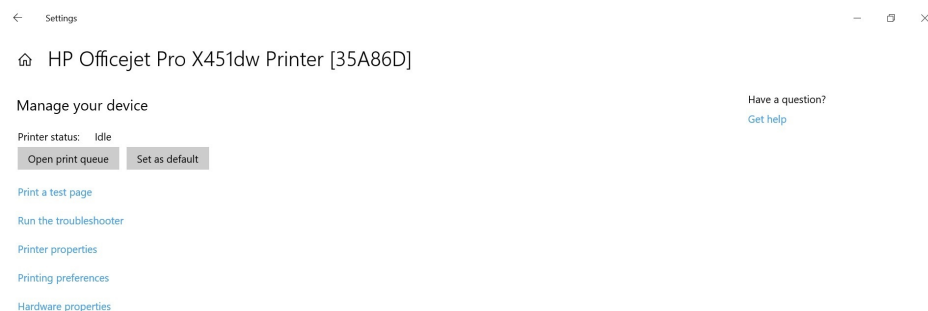


There is one important option: “Let Windows manage my default printer.” If you leave this option set to its default setting of On, Windows 10 will always configure the default printer to be the most recently-used printer. If you don’t like this behavior, just turn this option off.

You can, of course, configure printer-specific options. To do so, select the printer in the list.



Then, select Manage. The Manage your device page appears.



Here, you can perform several actions. Key among them are:

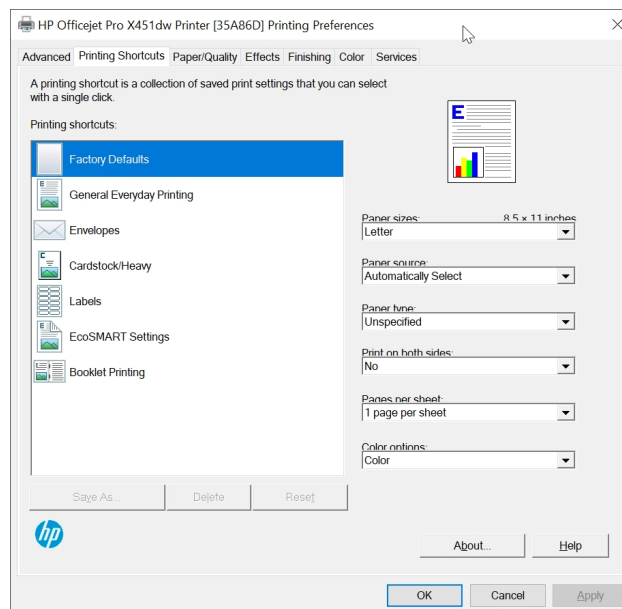
**Set this as the default printer.** If you disabled the option “Let Windows manage my default printer”

and intend to use this printer the most frequently, select the Set as default button.



This button will not appear if the option “Let Windows manage my default printer” is enabled in Printers & scanners settings.

**Configure printer settings.** To access a printer’s various features, select the “Printing preferences” link. A window will open showing configurable options for the printer. This will vary wildly by device, and can be customized by the printer maker.

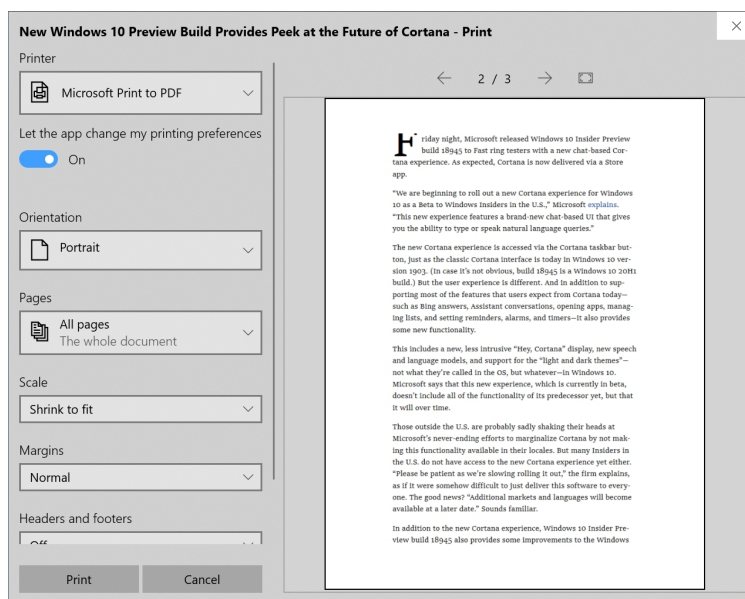


Beyond these options, many printers will ship with their own utilities that let you configure things further. You will typically find this utility in Start. But you may also see an “Open printer app” link when you select the printer in Printers & scanners settings.

## Print to a PDF file

In addition to supporting normal hardware printers, Windows also lets you print to a virtual printer called *Microsoft Print to PDF* that creates a PDF file instead of hard copy. This is useful because the PDF document format is a de facto standard and is accepted virtually everywhere.

You can print to PDF from any desktop application or Store app that supports printing. To do so, simply select “Microsoft Print to PDF” from the list of available printers. For example, Microsoft Edge will print the currently displayed page if you type CTRL + P or select Settings and more (“...”) > Print. The system Print window appears, letting you select among the available printers, including Microsoft Print to PDF.



After making any configuration changes, select the Print button. You'll be prompted to specify a file name and save location. From there, you can use the PDF file normally.



Yes, you can set Microsoft Print to PDF as the default printer if you'd like.

## Configure a second display

Windows lets you connect a second display—or even multiple displays—and use them together in a variety of ways. We'll focus on two displays here since that's the most common scenario. But the system works similarly with three or more displays as well.

How you connect a second display to your PC will vary from PC to PC. Desktop computers often include a video card that supports two display adapters with a wide degree of possibilities, for example. And many modern PCs now include a USB-C/Thunderbolt 3 or other port for adding a second wired display.



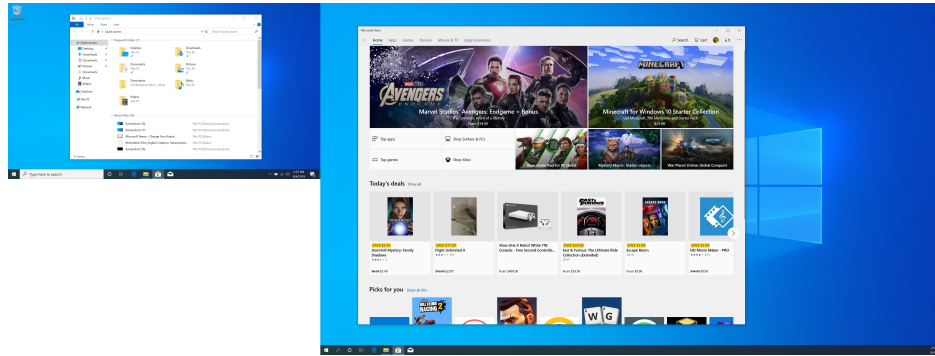
You can also use a technology called Miracast to connect wirelessly to a second display. Miracast is covered later in this chapter.

## Use a second display

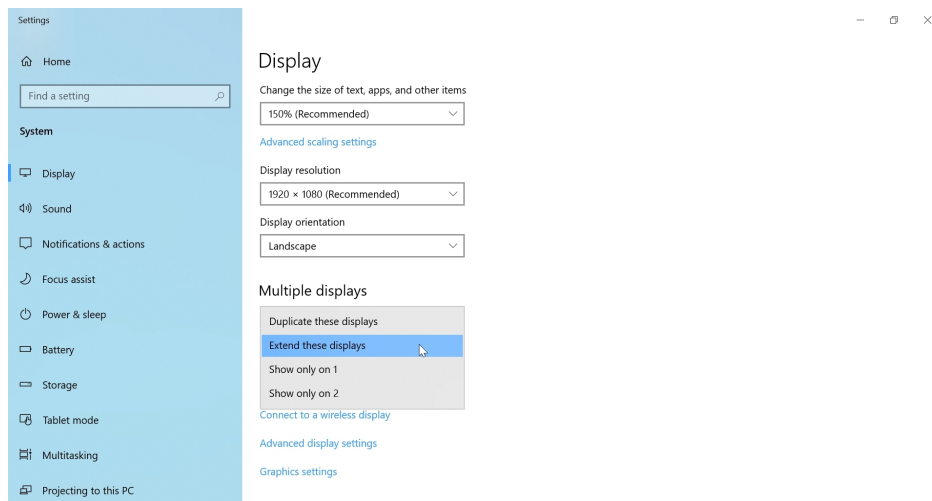
However you make the connection, when you add a second display, Windows will recognize the new device, trill a notification sound to indicate its success, and will then begin using it.

By default, it does so using what's called *extend mode*, where both displays are independent and present their own desktop, and floating app windows. (The taskbar is shared between both by default, but you can change that as noted later in this chapter.)

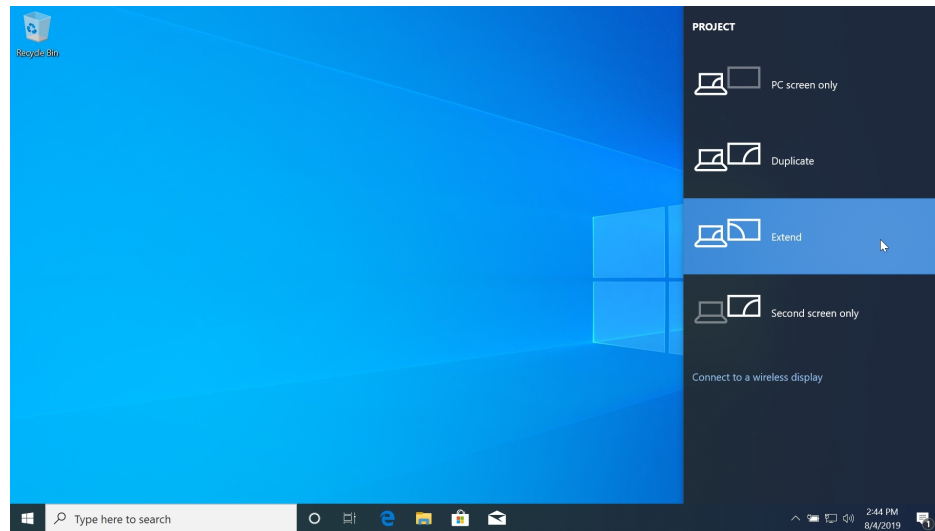
Here, you can see the primary display on a PC (on the left) and a second display (on the right). The primary display is Full HD (1920 x 1080) and the second display is 4K/UHD (3840 x 2160).



You don't have to accept the default display configuration that Windows provides. You can view and configure your options in the Display settings interface shown earlier, where a new Multiple displays section will let you choose between four display options.



But there's an easier way: Just type WINKEY + P to display the Project pane. (This will appear on the primary display in a multi-display setup.)



You can also display the Project pane by opening Action Center and selecting the Project quick action tile.

The following options are available:

**PC screen only.** Here, the second display is not used and your PC only uses its primary display. (In Display settings, this option is titled “Show only on 1.”)

**Duplicate.** Here in the default configuration, the PC’s primary display is duplicated to the second display. Because the two displays will often have different resolutions, Windows will use the lower resolution of the two for both displays. This can result in less than optimal output on one or both displays. (In Display settings, this option is titled “Duplicate these displays.”)

**Extend.** This mode extends the screen across both displays, giving you a bigger desktop area for apps and other windows, and using the native resolution of each display. (In Display settings, this option is titled “Extend these displays.”)

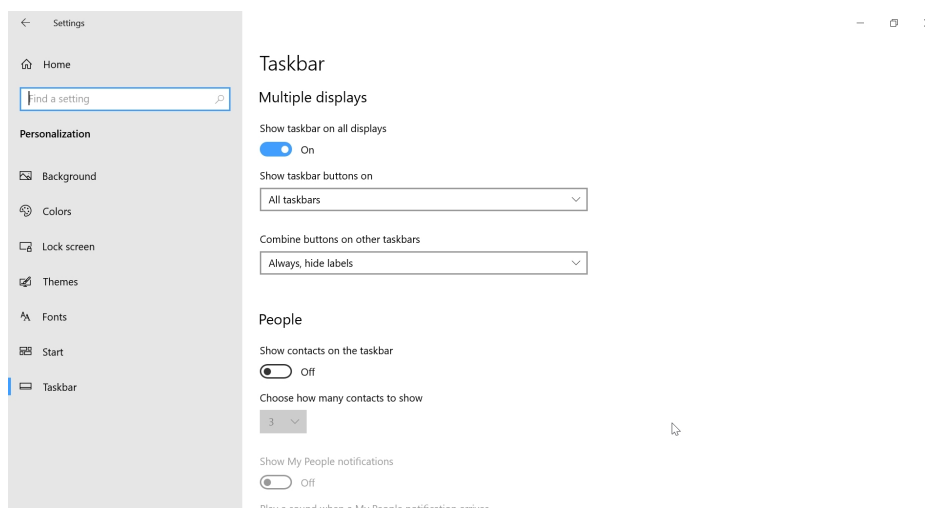
**Second screen only.** In this configuration, only the second display is used and the primary display is disabled. This configuration can be useful for such things as projecting a video from the PC to an HDTV using an HDMI cable. But it can be difficult to use on tablets and 2-in-1 PCs, since you will be touching the disabled screen while watching a second (and external) display. (In Display settings, this option is titled “Show only on 2.”)



Some display options—like display scaling, orientation, and brightness—are configured independently for each display. See the section *Change the display scaling* in the \*Personalize chapter for more information.

## Configure advanced options for a second display

If you regularly use two (or more) displays at once, there are a number of advanced configuration options you should be aware of that can make this setup more productive. These are available in Taskbar settings, which you can access by navigating to Settings > Personalization > Taskbar. If you scroll down a bit, you will see a Multiple displays section.



You can also access this Settings page directly by right-clicking an empty area on the taskbar and choosing “Taskbar settings” from the menu that appears.

There are three options here.

**Show taskbar on all displays.** By default, Windows displays a taskbar on each display. If you change this option to Off, the taskbar will appear only on the primary display.

**Show taskbar buttons on.** By default, Windows duplicates the layout of the taskbar on each display. But you can change this so that buttons always appear on the primary display’s taskbar as well as the taskbar for the display on which their apps are running (“Main taskbar and taskbar where window is open”). Or, you can choose to only display taskbar buttons on the taskbar of the display on which their apps are running (“Taskbar where window is open”).

**Combine buttons on other taskbars.** As with previous Windows versions, you can display taskbar buttons with or without labels. This option lets you configure this choice differently for the primary and secondary displays. (By default, the taskbar on the second display will not display button labels.)

## Wirelessly project to a secondary display with Miracast

You don’t necessarily need an HDMI, USB-C, or similar cable to use an external display. Using a technology called Miracast, you can instead *wirelessly* project to an HDTV or other display.

Miracast utilizes Wi-Fi technology to establish a peer-to-peer connection between your PC (the Miracast source) and a Miracast-enabled display (the Miracast target).

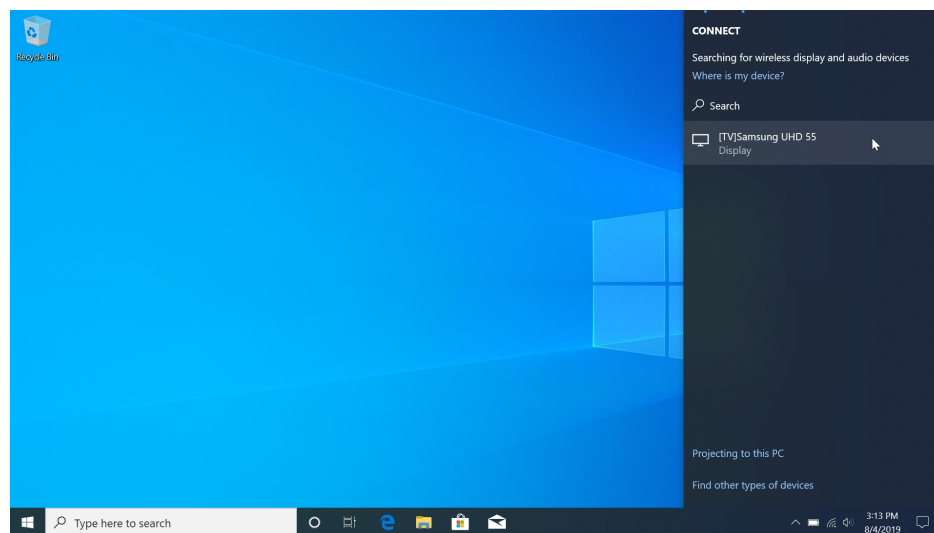
As such, it has two requirements:

**Your PC must include a Miracast-compatible Wi-Fi adapter.** That means it supports either Wi-Fi Direct or Intel Wireless Display (WiDi) technology. Most modern Windows devices support one or the other.

**Your external display must be Miracast-compatible.** This is rare, but you can add Miracast capabilities to an HDTV or other HDMI-capable display by purchasing an inexpensive adapter like the *Microsoft Wireless Display Adapter*.



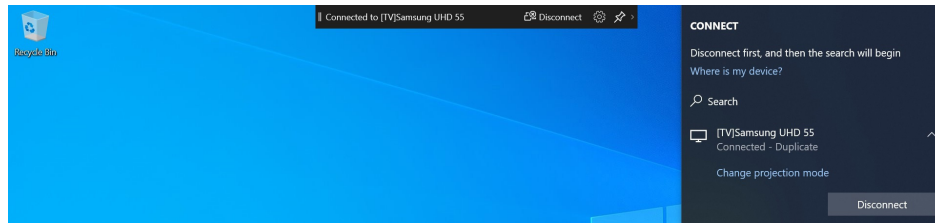
If you meet the requirements, you can configure your PC to use Miracast by opening Action Center (WINKEY + A) and selecting the Connect quick action tile. When you do, Windows will search for compatible Miracast devices.



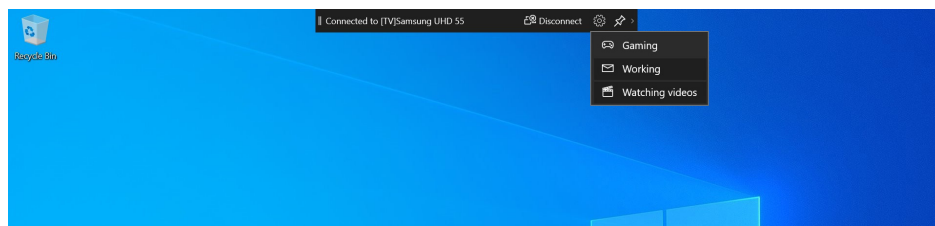


Select the wireless display adapter you wish to use—mine is called *Samsung UHD 55* in the shot above—and Windows will load the appropriate drivers, if needed, and then connect wirelessly to the second display using the duplicate projection mode by default, just as with other external display types.

In addition to being wireless, Miracast offers another advantage over other display connection types: It provides a handy overlay toolbar on the primary display so you can manage the connection.



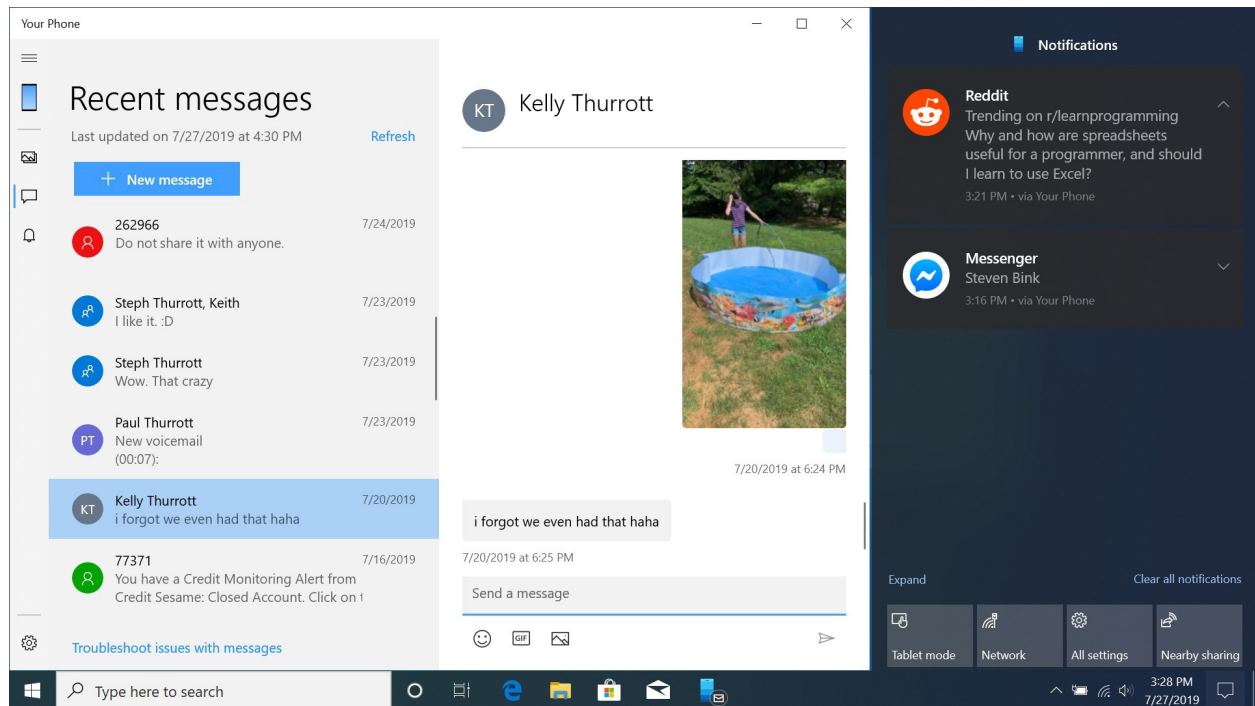
If available, select the gear icon (“Optimize the connection for what you’re doing”) to customize the display connection according to your needs: Gaming, working (the default), or watching videos.



To hide the toolbar, select the Pin icon. You can always access the toolbar by mousing up to the upper edge of the primary display.

To change the projection mode, open the Project pane (WINKEY + P) normally. Or, open the Connect pane and select “Change projection mode.”

# Phone



You can link your smartphone to your PC through your Microsoft account and access some of your smartphone's key features directly from Windows. And in doing so, you make both devices better.



Most of these capabilities are available only on Android handsets. If you use an iPhone, you can take advantage of just one cross-device feature, called Continue on PC. Put simply, Android is the better choice if you wish to fully integrate your Windows PC with your phone.

## Get to know the Your Phone app

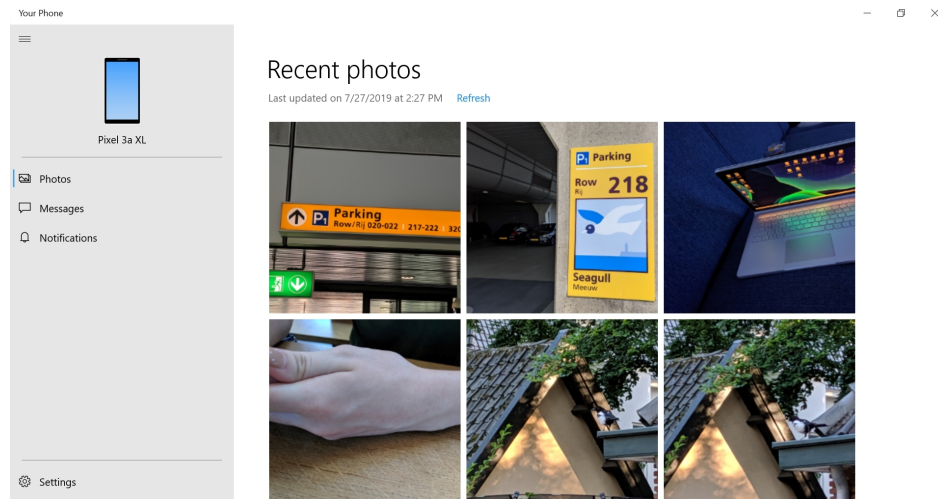
Windows provides a simple app called Your Phone that lets you use your PC to access your phone's most recent photos, send and receive text messages on your PC, and access your handset's notifications, all as if you were doing so directly on your phone.



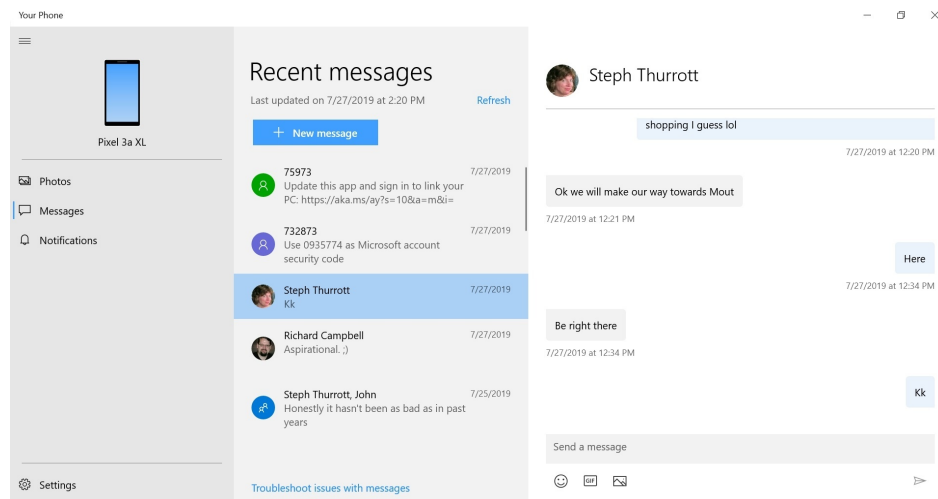
All of these capabilities require you to be using an Android handset.

Your Phone provides three basic views:

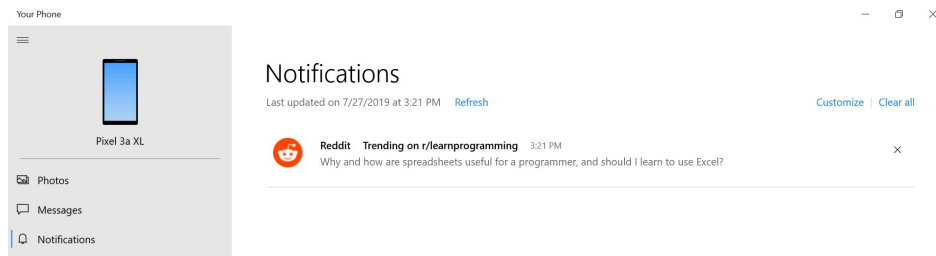
**Photos.** Here, you can access the 25 most recent photos taken by your phone's camera.



**Messages.** This view lets you view and respond to text messages on your phone and send new text messages to your contacts.



**Notifications.** This view lets you see all of your phone's notifications as they arrive and delete those notifications that you no longer wish to see.

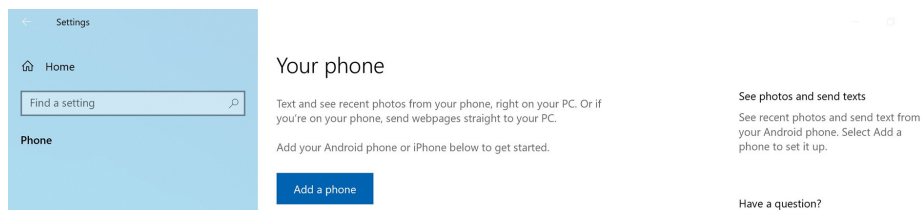


Each of these interfaces are discussed later in this chapter.

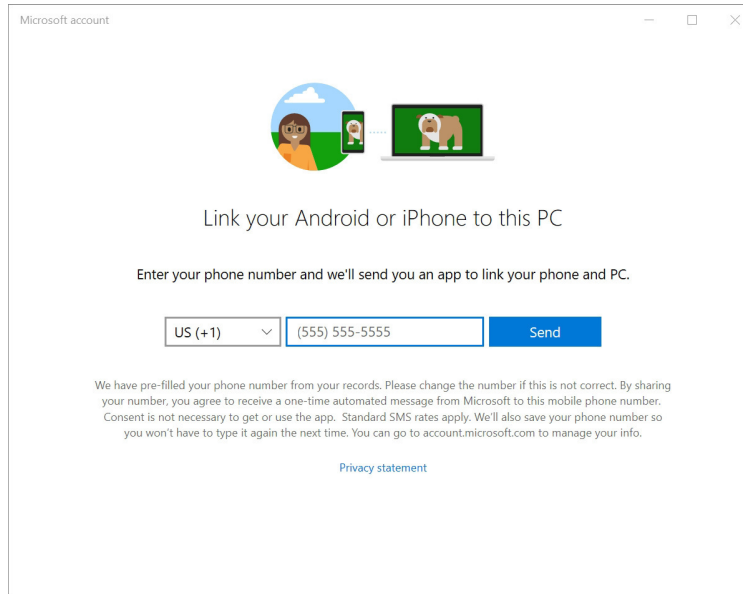
There isn't a lot of configuration to be had. You can collapse and expand the navigation pane if you'd like. And in the app's settings, you can individually configure whether this PC is allowed to access your phone's photos, messages, and message notifications.

## Link your phone with your PC

Before you can share information between your phone and your PC, you must link them through your Microsoft account. You can do so by navigating to Settings > Phone.



Now, select the “Add a phone” button. A Microsoft account window appears.

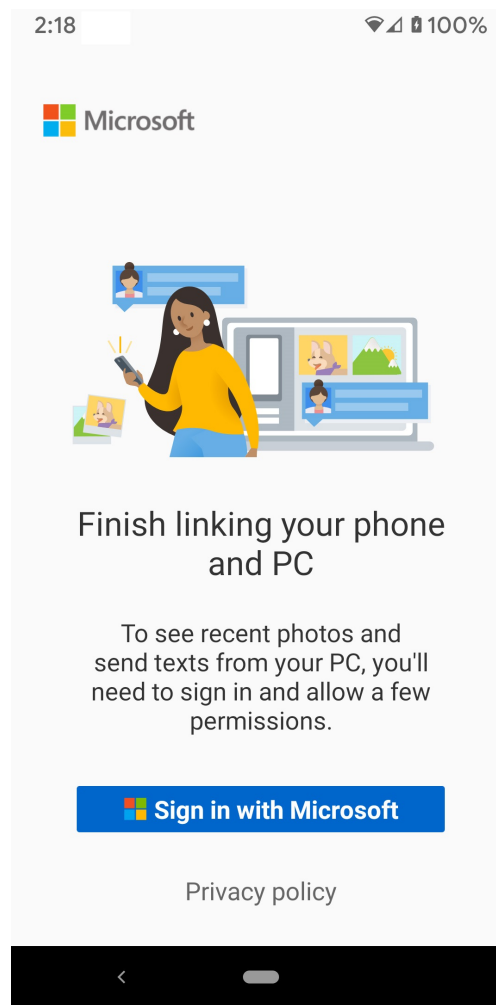
The image shows a web browser window titled "Microsoft account". At the top, there is a header bar with the title and standard window controls. Below the header, there is a central graphic featuring a person's profile icon, a smartphone, and a laptop, all connected by dotted lines. The main heading reads "Link your Android or iPhone to this PC". Below this, a sub-heading says "Enter your phone number and we'll send you an app to link your phone and PC." There is a form with a dropdown menu set to "US (+1)" and a text input field containing "(555) 555-5555". To the right of the input field is a blue "Send" button. Below the form, there is a paragraph of small text: "We have pre-filled your phone number from your records. Please change the number if this is not correct. By sharing your number, you agree to receive a one-time automated message from Microsoft to this mobile phone number. Consent is not necessary to get or use the app. Standard SMS rates apply. We'll also save your phone number so you won't have to type it again the next time. You can go to account.microsoft.com to manage your info." At the bottom of this text is a blue hyperlink labeled "Privacy statement".

Here, enter your phone number as prompted and then select Send. A text message will be sent to your phone.

This message includes a hyperlink for a Microsoft mobile app that you will install on your phone. But *which* app you are offered varies according to which type of phone you have.

## Link your Android handset with your PC

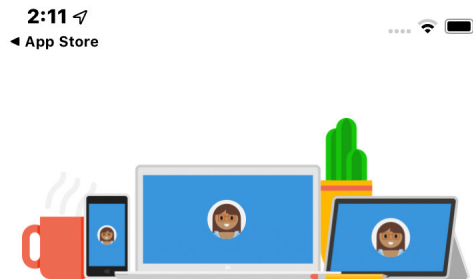
If you use an Android phone, the text message will prompt you to install the [Your Phone Companion](#) app. Do so, and then run the app and step through the simple wizard it presents in which you will sign-in to your Microsoft account and make a few configuration changes to your phone.



Once you've correctly configured your phone, you're free to examine the Your Phone app on your Windows PC and see which phone features you can access there.

## Link your iPhone with your PC

If you use an iPhone, the text message will prompt you to install the [Microsoft Edge](#) mobile web browser. Do so, and then run the app and sign-in to your Microsoft account so that you can enable sync—of favorites, open tabs, form autofill information, passwords, and history—between Microsoft Edge in Windows and on your iPhone.



### Keep passwords safer

To securely sync your saved passwords across devices, verify your account.



thurrott10@outlook.com

Not now

Verify

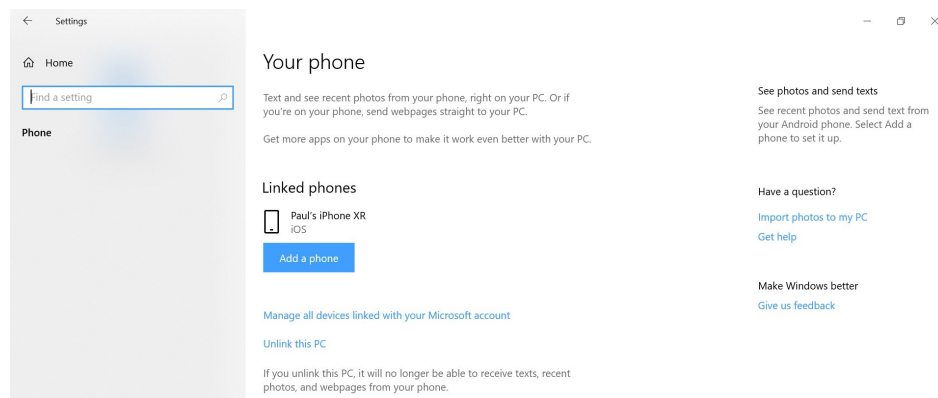
Doing so will also establish a link between your iPhone and your PC, and let you use a feature called Continue on PC push web pages from Microsoft Edge on your iPhone to your PC.



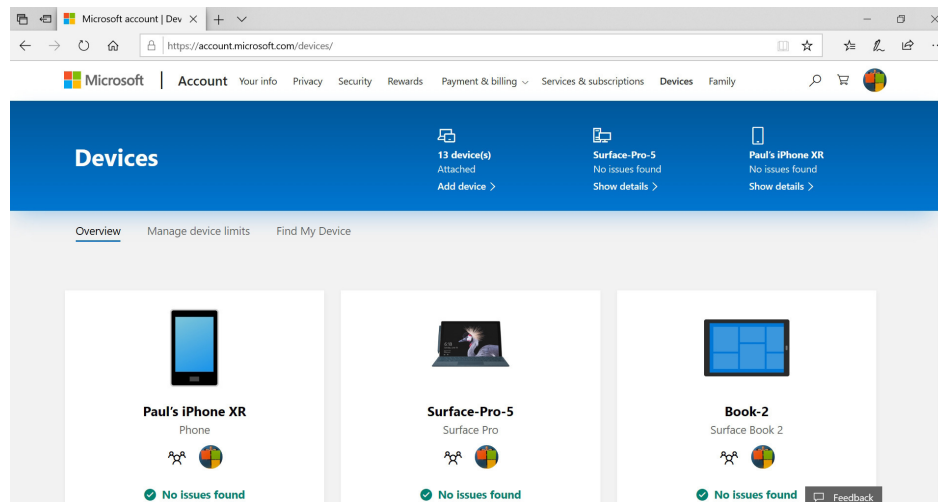
Other Microsoft apps for iPhone—including Microsoft Word, Excel, PowerPoint, and others—provide simple ways to “pick up where you left off” in documents you were previously editing on Windows as well.

## Manage your linked phone

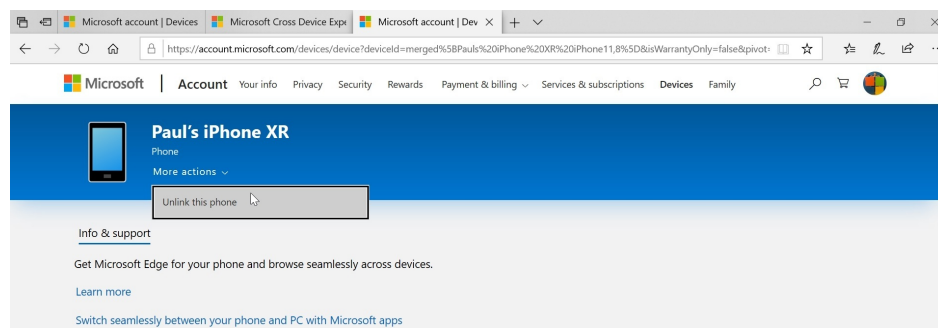
Whichever type of smartphone you use, you will see that your phone has been linked once you return to the Phone page in Settings.



Beyond unlinking it from your PC, you can't really configure the phone in any way from this interface. But you can manage a linked phone by selecting the link “Manage all devices linked with your Microsoft account.” This will open your browser and navigate to [the Devices page of the Microsoft account website](#).



From here, you select the “Show details” link below your phone to display a page with more information and support links for the device. To unlink the phone, select More actions > Unlink this phone.









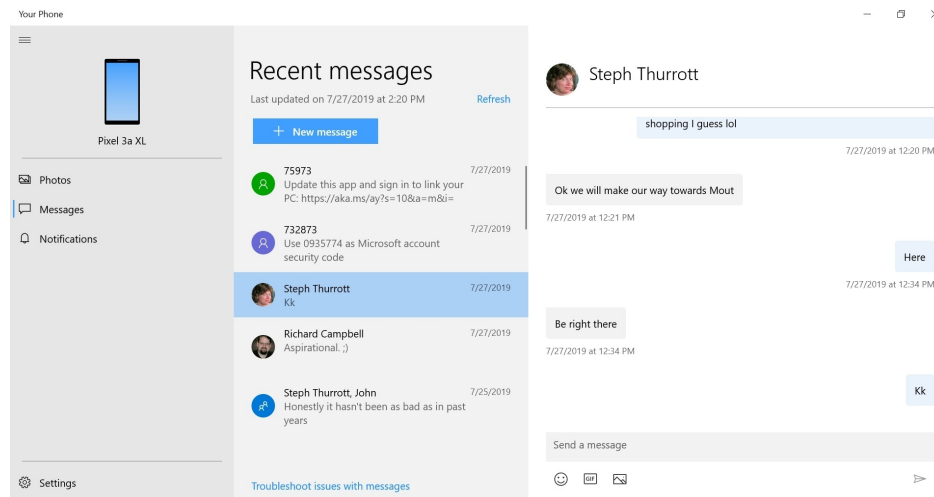
If you make any changes to the photo via the Edit & Create options, you will be asked to save a copy of the photo to your PC. The changes will be applied only to the copy of the photo, not the original on your phone.

You can also copy a photo to the Clipboard or Share it by right-clicking it and choosing the appropriate option. Or, simply drag a photo from the Your Phone app onto your desktop, an email message in the Mail app, an open Microsoft Office document, or elsewhere in Windows.

## Send and receive text messages

If you linked an Android handset to your PC, you can use the Your Phone app in Windows to view, send, and receive text messages on your PC.

To do so, open My Phone and navigate to Messages.



Here, you can perform the following tasks.

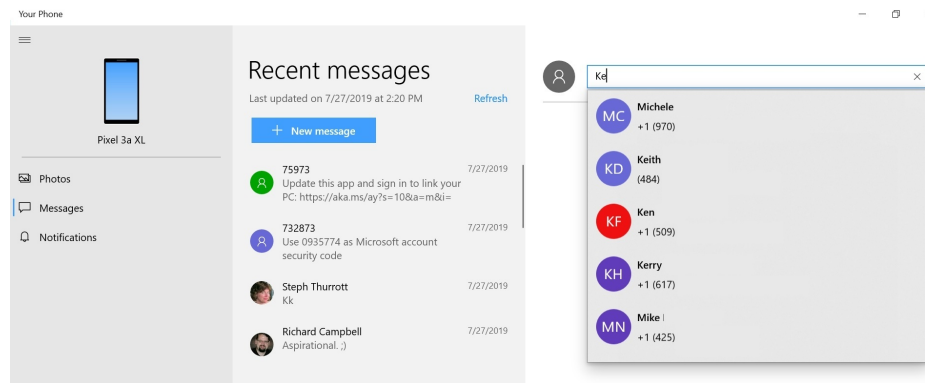
**Read a text message.** To read a text message—along with the entire conversation you’ve had with that individual or group—simply select it in the Recent messages pane.



And yes, newly-arriving text messages will trigger a standard Windows notification banner. You can even reply to a text message right in the banner if you catch it quickly enough.

**Respond to a text message.** To respond to a text message from your PC, select the conversation, and then select the “Send a message” field. Type your reply and hit Enter—or the Send button—to send the message.

**Write a new text message.** To create a new text message, select the “+ New Message” button at the top of the Recent messages pane. Here, you can add one or more recipients—using contact auto-complete—and the message you wish to send.



Unfortunately, Your Phone does not allow you to add multimedia content—like photos or audio files—to text messages sent from the PC.

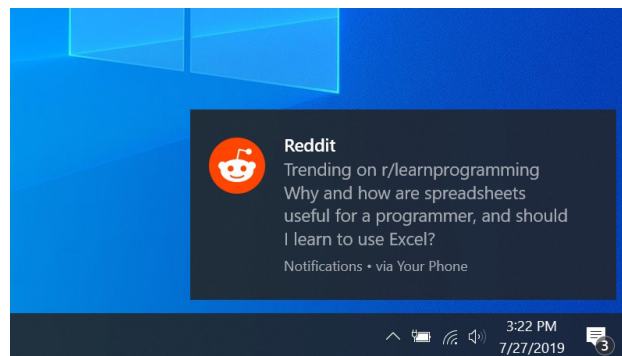
## View and delete Android notifications

If you linked an Android handset to your PC, you can use the Your Phone app in Windows to view new notifications from your phone and optionally delete them.

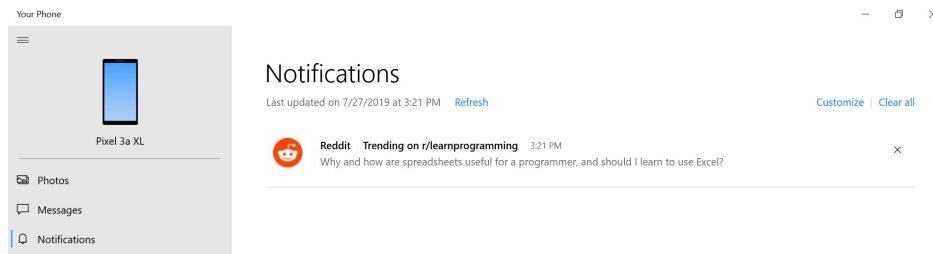


After enabling this feature, you will only be able to see new notifications. Previously-delivered notifications will not appear in Your Phone.

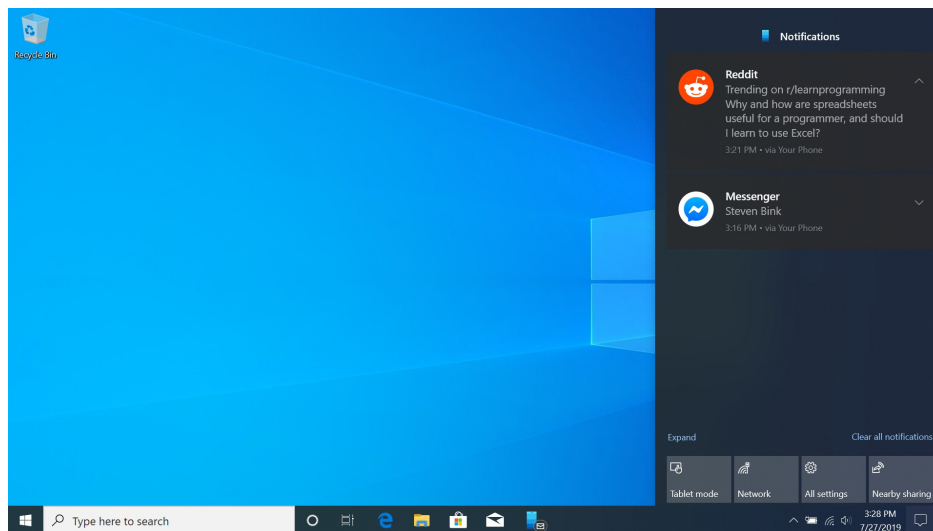
When you receive a phone notification, Your Phone will display a notification banner to alert you.



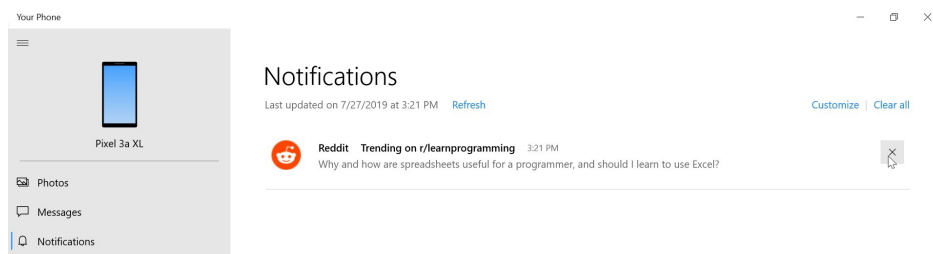
These banner work like any other notification you see in Windows. If you select it, it will open the relevant app, in this case Your Phone.



And if you miss the notification, you can always view it—and other missed notifications—in Action Center.



As far as managing these notifications goes, there's not much else you can do beside deleting them. To do so, select the Clear (“x”) button next to the notification you'd like to delete.



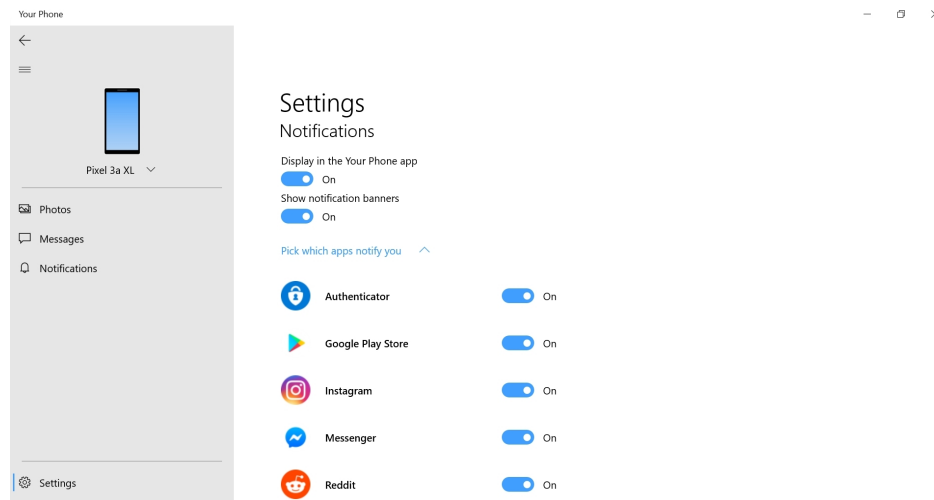
You can also delete all currently displayed Android notifications by selecting the “Clear all” link.



If you clear a notification on your phone, it will be deleted from Your Phone too. The reverse is also true.

As is the case on your phone, you may find that the number of notifications you receive is a bit much. But you can relieve the pressure by customizing how notifications work in Your Phone.

To do so, select the “Customize” link in the Notifications view. The app’s Settings interface appears.



Here, you can configure whether to allow Android notifications to appear in Your Phone and whether they should display notification banners. You can also use the list of apps to disable notifications (in Windows via Your Phone) from particular apps.



This list of apps grows as more Android-based apps issue notifications. So you may have to revisit this interface over time.

## Use Continue on PC to pick up where you left off

Once you’ve linked your Android handset or iPhone with your PC, you can perform specific tasks on your phone and then continue working on them on your PC. How you do this will depend on which phone apps you use.



This functionality works the same on both Android and iOS.

## Continue on your PC with Microsoft Edge

Those who use Microsoft Edge on both their phone and their PC can use a feature called Continue on PC to begin reading an online article or other web page on their phone and then continue reading

it on their PC. This is useful for content that might be more readily enjoyed on a big screen and for content that you might want to read later.

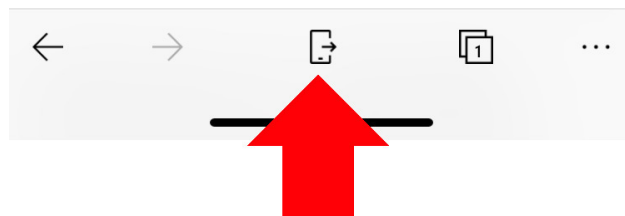


Android users can download Microsoft Edge from the Google Play Store.

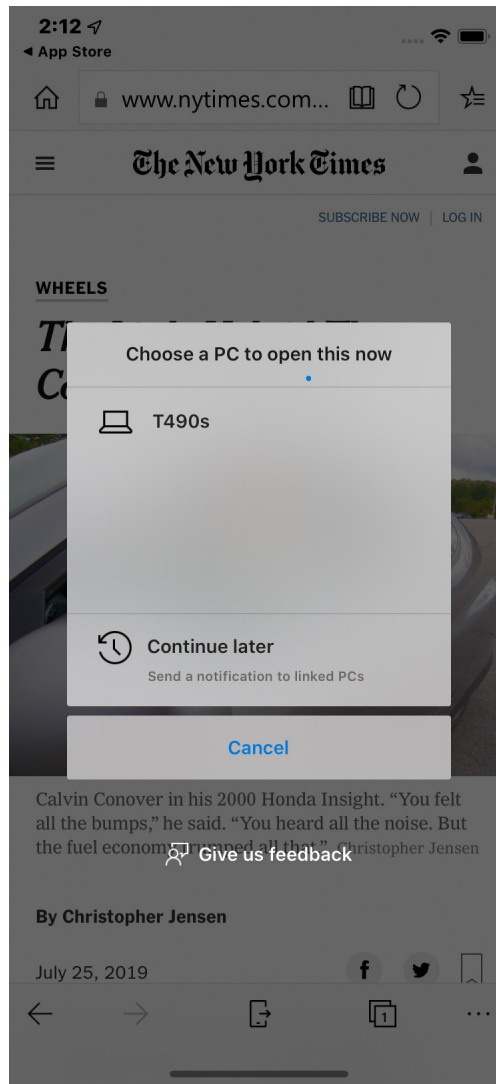


Continue on PC is unidirectional. That is, you can send a web page from your phone to your PC, but not from your PC to your phone.

To use this feature, open a web page in Microsoft Edge on your phone. Then, tap the Continue on PC button in the center of the Edge toolbar at the bottom of the screen.



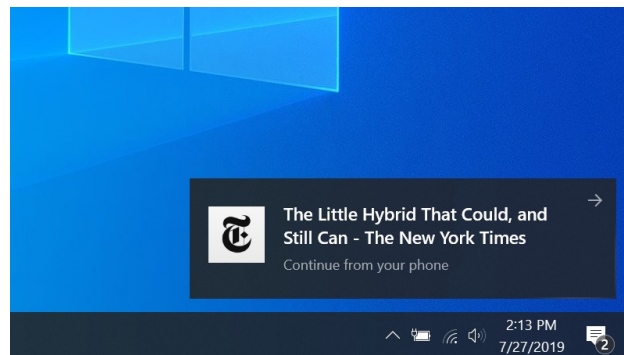
When you do, a window appears displaying a list of your linked PCs.



To display the web page in Microsoft Edge on a linked PC immediately, select the PC from the list. When you do, Microsoft Edge launches on the selected PC, opens a new tab, and loads the same web page.



To be notified about this article so you can read it later, choose Continue later. When you do so, a notification will appear on each of your linked PCs.



This notification will appear in Action Center, too, so you can view it later.



This capability only works with Microsoft Edge in Windows. If you configure Google Chrome or another application as your default web browser on your PC, these sent articles will still open in Edge.

## Continue on your PC from Chrome, Safari, and other web browsers

If you use a different web browser on your phone, you can still send web pages from your phone to your PC. It's just not as seamless.

On Android, this capability is provided by the Your Phone Companion app that you probably already installed.



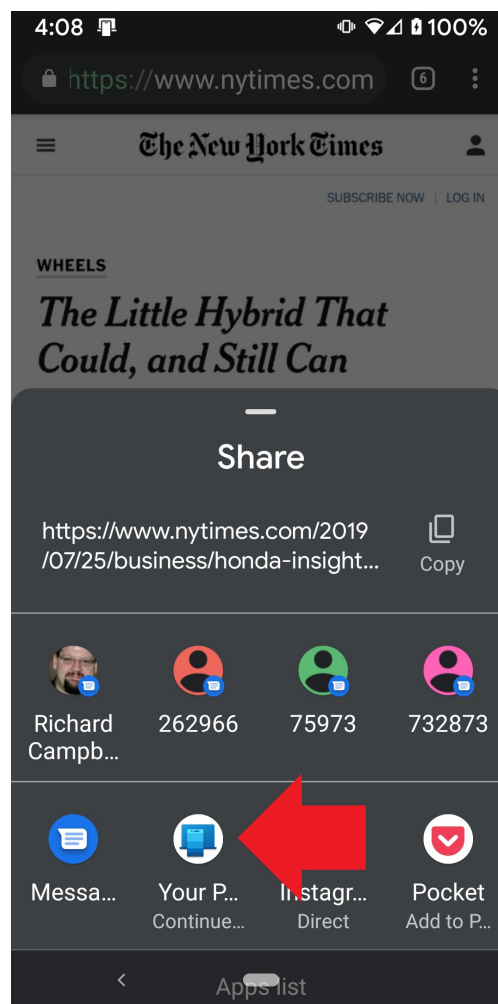
On iPhone and other iOS devices, you will need to [install the Continue on PC app from the Apple Apps Store](#) first. Be sure to configure this app as directed so that Continue on PC appears in your phone's Share interface.

To do share a web page from a non-Edge browser on your phone, display it in the web browser you prefer. Then, find the system Share feature. (For example, in Chrome for Android, it's available in the browser's menu, and Safari for iPhone includes a Share button in the toolbar.)

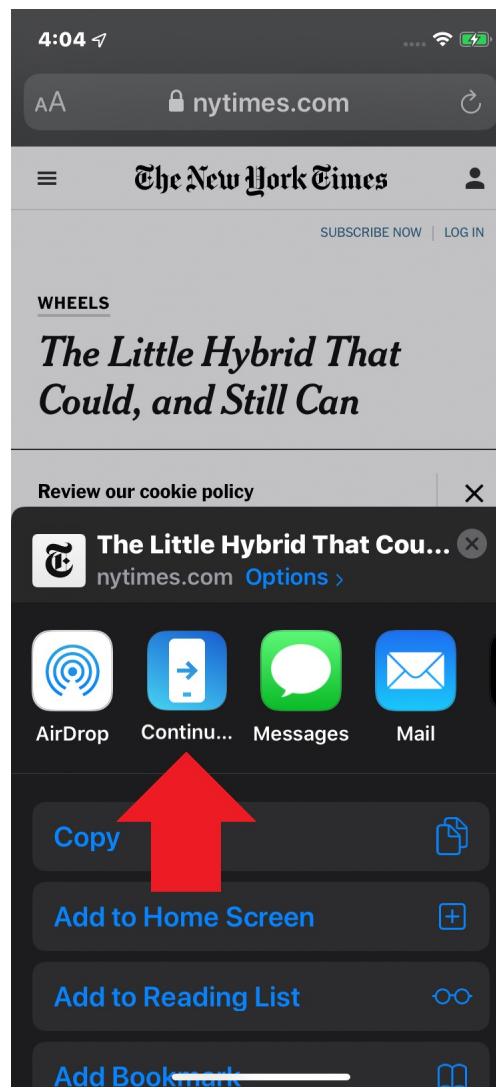
Now, Locate "Your Phone (Continue on PC)" (Android) or "Continue on PC" (in iOS) in the Share interface that appears.

Share appears as a pane that slides up from the bottom of the screen on both platforms.

On Android, it looks like so.



And on iPhone, Share looks like this.



In both cases, you will be presented with a window that works identically, and as described in the previous section: You can send the currently-viewed article to a specific PC immediately, or send a notification so that you can read that article later on any linked PC.



And, yes, this only works with Microsoft Edge on your PC, even if you configured another web browser as the default.

## Explore more PC and phone integration features

Beyond the Your Phone Companion, Microsoft Edge, and Continue on PC apps, Microsoft offers numerous other ways in which your PC and phone can be used together. Many of these are tied to specific mobile apps which are available for Android and/or the iPhone.

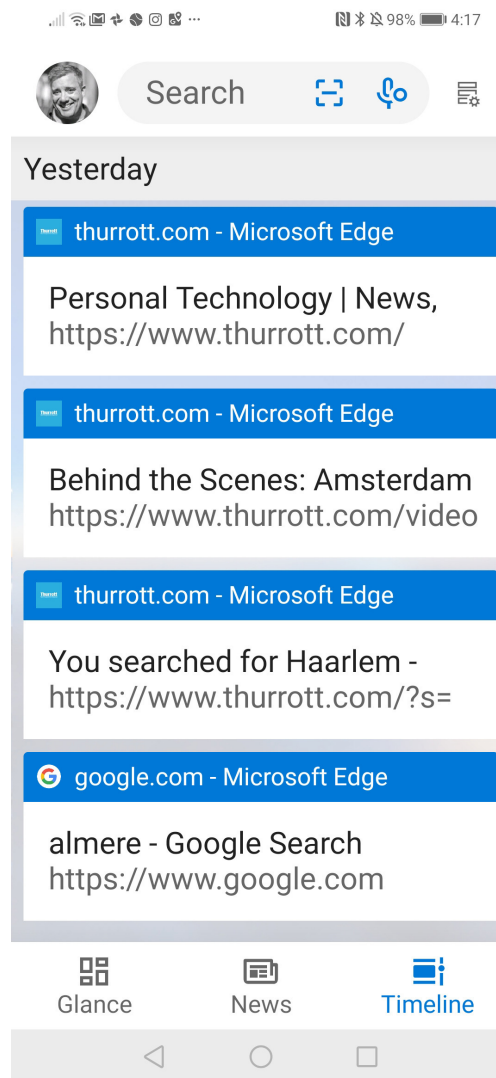
Key examples are listed here.

## **Microsoft Launcher (Android only)**

Microsoft Launcher replaces your phone's default user interface, including the home screen, with one of Microsoft's design. It is, in effect, the "full meal deal" for those who want a complete Microsoft experience on mobile. And it offers deep integration with Microsoft services and some interesting personalization features.

Those features that enhance the integration of your PC and phone are, perhaps, the most interesting. These include:

**Timeline.** You can view a list of documents and web pages you've opened on your PCs and then open them using the appropriate mobile app directly on your phone. This view is available from the Microsoft Launcher feed, which you access by swiping to the right from the left-most home screen.



**Microsoft To-Do.** While you can install the standalone Microsoft To-Do app, you can also access all of your to-do's—sometimes called tasks—via the Tasks view in Microsoft Launcher's Glance feed. These tasks also integrate across Outlook.com, Microsoft Outlook, and other Microsoft products and services.

**Sticky Notes.** Windows includes a simple Sticky Notes app for creating short notes and lists. And you can access these notes from the Sticky Notes view in the Microsoft Launcher feed. That way you can make a quick shopping list on your PC, perhaps, and then access it out in the world from your phone.



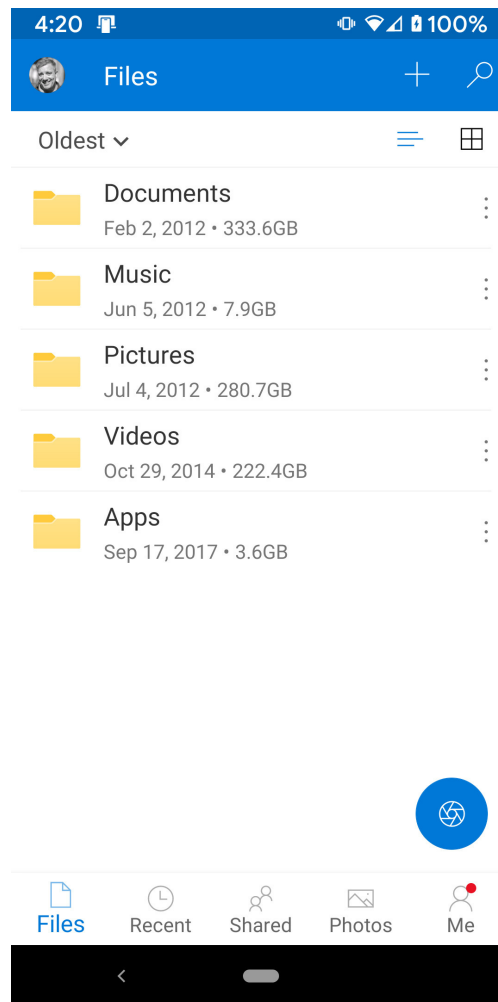
You can also access Sticky Notes from OneNote for Android (or iOS).

**Cortana.** The Microsoft Launcher lets you access Cortana, the firm's digital personal assistant, by

saying “Hey Cortana” at any time. That way, you can create reminders and ask questions just with your voice.

## Microsoft OneDrive

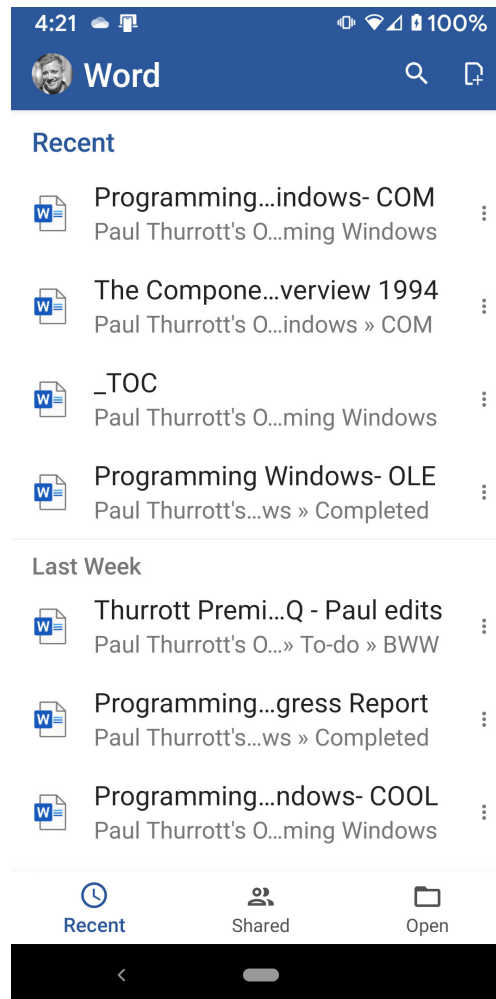
In addition to providing cloud backup for all of the photos you take on your phone, OneDrive for Android and iPhone lets you access all of the files in your cloud storage, and it can do so across both your personal and work accounts. Files opened in OneDrive will open the appropriate app on your phone; for example, Excel spreadsheets will open in the mobile version of Excel.



## Microsoft Office apps

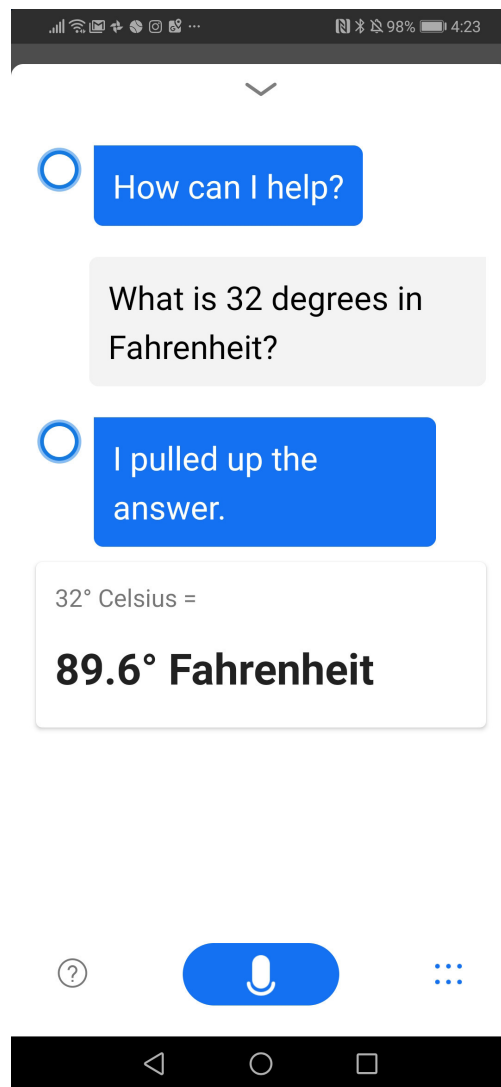
Microsoft makes its most important Office apps, including Word, Excel, PowerPoint, OneNote, and others, available on mobile, as well as a growing list of newer, related apps like Microsoft To-Do, Office Lens, and others, that offer some form of cross-device integration through your Microsoft

account. For example, Microsoft Word for Android and iPhone provides a list of recently-edited documents when you open the app so you can easily continue working from your phone.



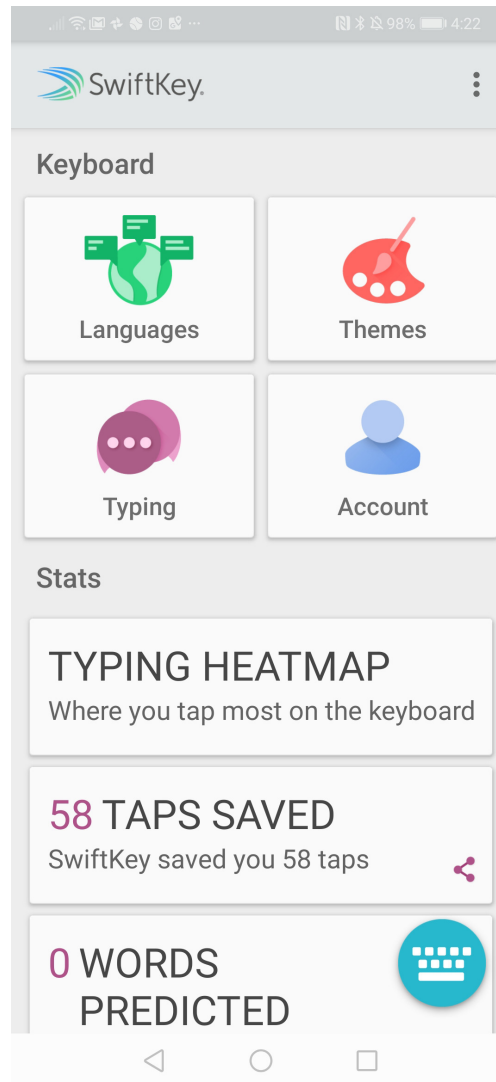
## Cortana

Microsoft's personal digital assistant is available on both Android and iPhone so that you can access your reminders, notes and lists, and more from any of your devices. On Android, you can also configure Cortana as your default assistant, replacing Google Assistant, if you wish.



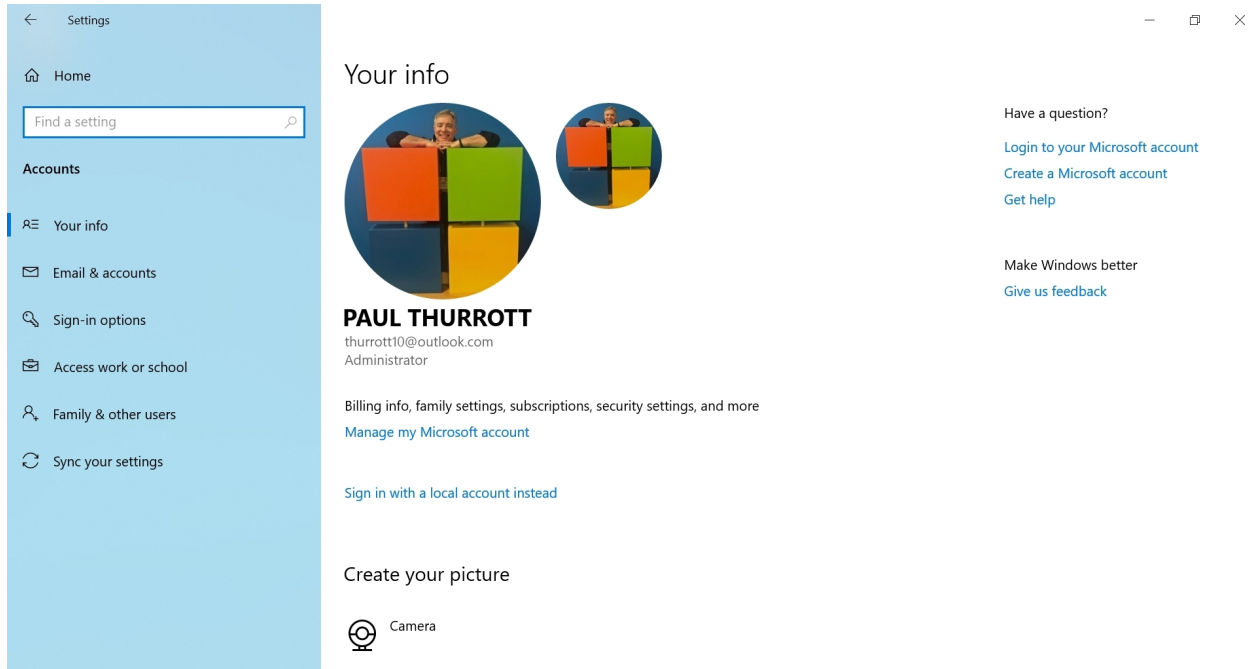
## Swiftkey

Microsoft's Swiftkey keyboard for Android supports Microsoft cloud clipboard service. Which means that you can copy text to the clipboard on your Android handset and then paste it into an application on your Windows PC.





# Accounts



Windows helps you manage the online accounts that you and others use to sign-in to the system, use with its apps, and access online services.

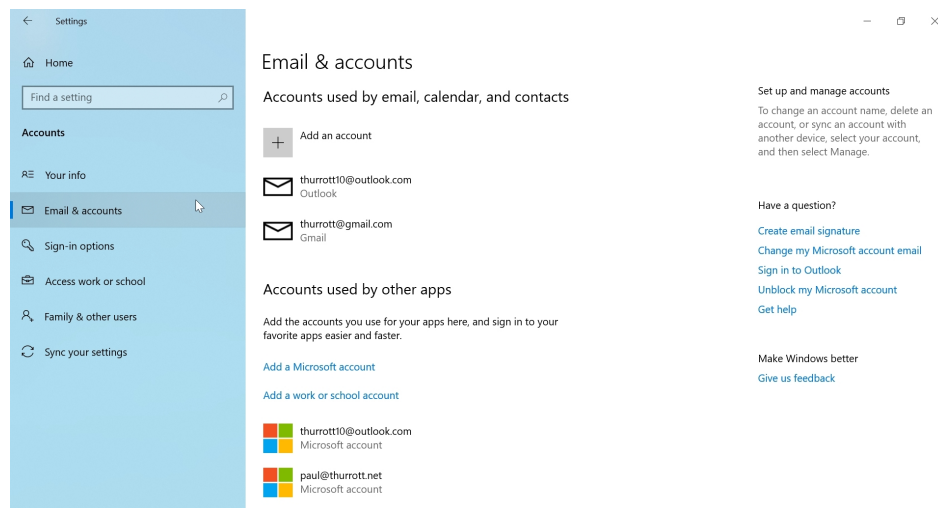
## Get to know Accounts settings

Account management is performed in Accounts settings, which is found by navigating to Settings (WINKEY + I) > Accounts.

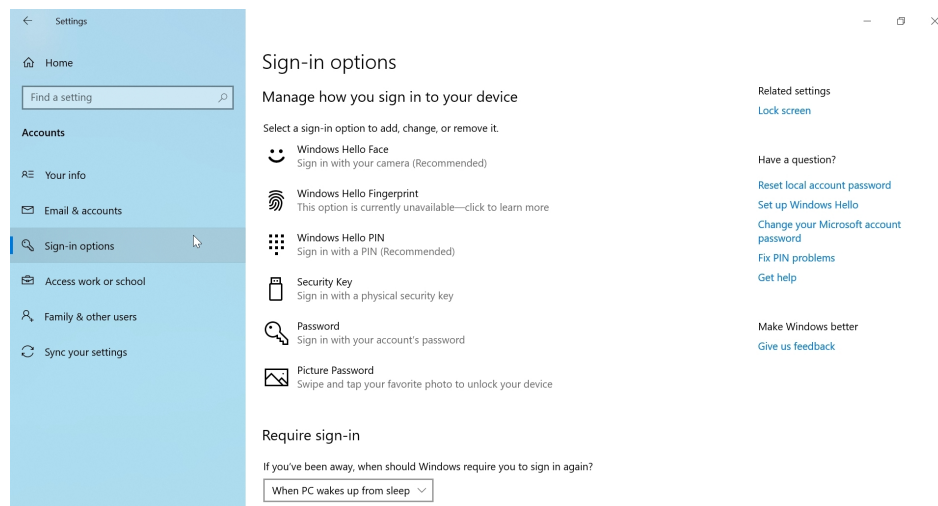
The following interfaces are available here.

**Your info.** This page displays basic settings for the currently signed-in user plus the ability to convert the account between a local account and a Microsoft account.

**Email & accounts.** Here, you can manage the email accounts you use in the Mail, Calendar, and People apps as well as other Microsoft accounts you may wish to use in the other apps that come with Windows.



**Sign-in options.** This page lets you configure the sign-in options for the current user, which can include simplifying your sign-in with a PIN or fingerprint reader, or by other means.

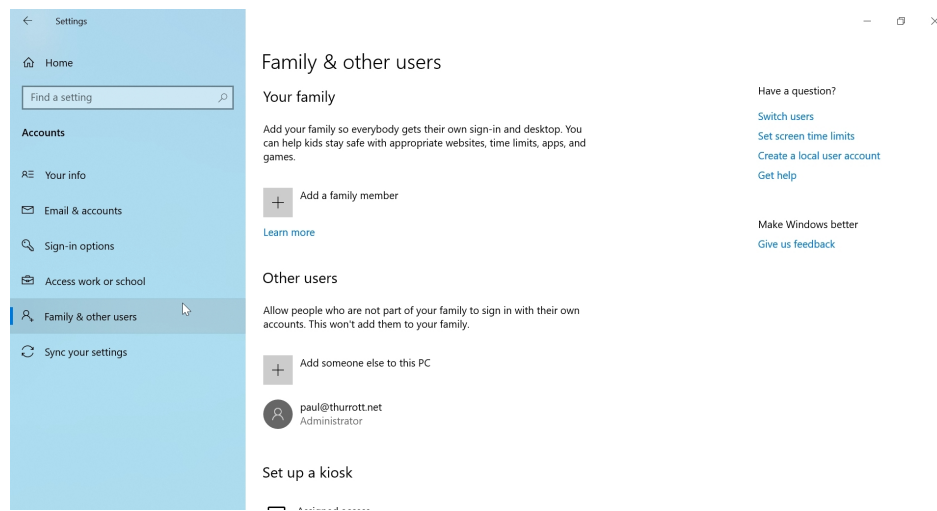


**Access work or school.** This interface is for those who need to connect to corporate or educational environments with newer Microsoft infrastructures.

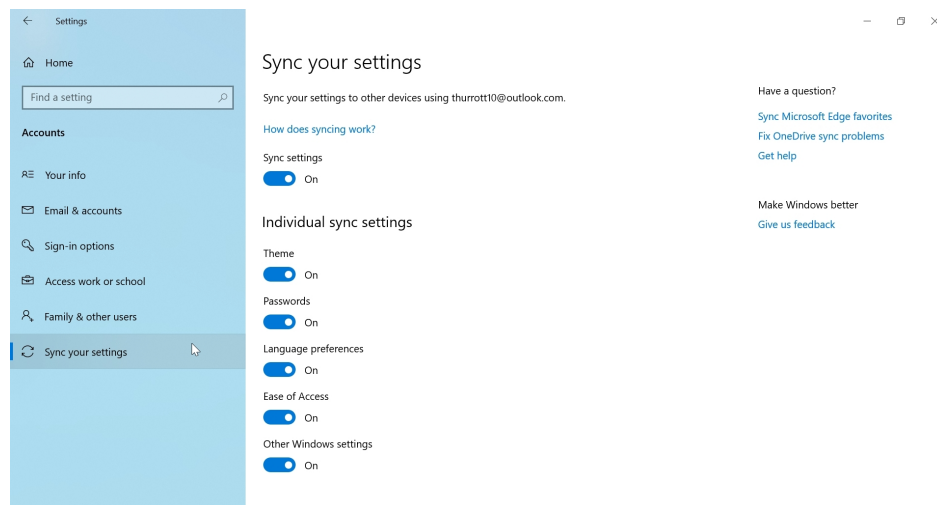


Individuals using a personal PC will not need to access this interface.

**Family & other users.** Here, you can configure parental controls for family members and add sign-in accounts for other people who might need to use this PC.



**Sync your settings.** An interface for determining which Windows features will sync with your Microsoft account through OneDrive. This functionality is only available to those who sign-in with a Microsoft account.



## You should sign-in to Windows with a Microsoft account

20 years ago, Windows users would create a *local account* when they first signed-in to a PC. But any configuration changes they subsequently made, or documents and other files they saved to that PC, would be unavailable if they wanted to use another computer.

Today, Windows is more sophisticated. Now, you can sign-in to Windows with your Microsoft account instead. And because so much in Windows relies on you using this type of account, we pretty much only support Microsoft accounts in this book.

Some of the key benefits of using a Microsoft account include:

**It provides settings sync.** Many of your settings—your desktop theme, web browser settings, saved passwords, and more—are synced from PC to PC, providing a consistent experience.

**It's required if you will use Microsoft Edge.** If you are going to use Microsoft Edge, the web browser that's included with Windows 10, you will basically need to sign-in to Windows with your Microsoft account. Otherwise, you cannot sync or saving settings, favorites (bookmarks), passwords, and other useful data.

**Some experiences require a Microsoft account.** Some of the built-in experiences, like OneDrive, require a Microsoft account. If you sign-in to the PC with a Microsoft account, these experiences will work seamlessly. If you don't, you may need to sign-in to them individually.

**Some apps require a Microsoft account.** Some apps—like OneNote and Movies & TV—require a Microsoft account as well. Yes, you can sign-in to those apps as needed, but you must do so one at a time, manually.

**It's more secure.** Because you can configure your Microsoft account to require two-step authentication, a Microsoft account is more secure than a local account.

Of course, some apps don't require a Microsoft account at all. For example, while the Mail, Calendar and People apps do require you to connect them with online accounts, you don't have to use a Microsoft account. In fact, you can connect only to a Gmail/Google account if you want.

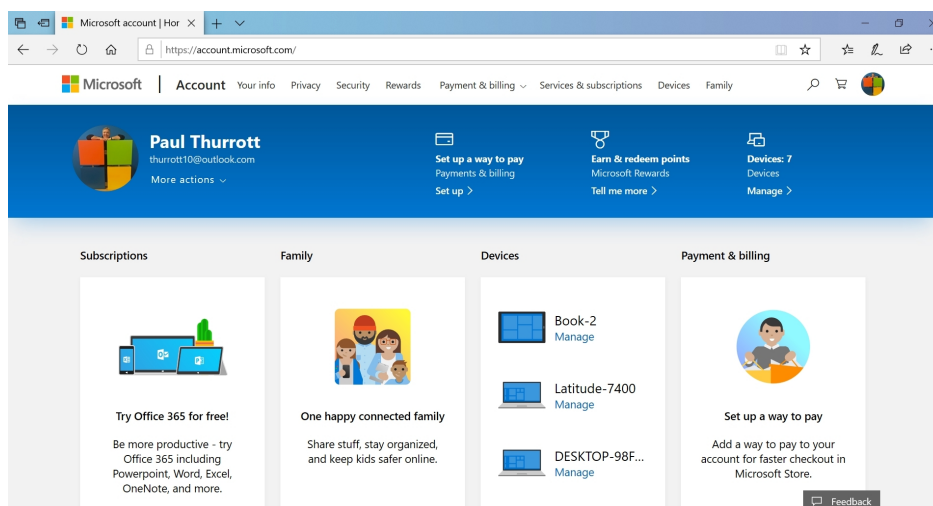


Local accounts still exist for certain scenarios, but Microsoft now refers to this account type as an “offline” account to differentiate from the cloud-hosted Microsoft account.

## Microsoft account security first steps

Before you do anything else, you should make sure that the Microsoft account you are using with Windows is as secure as possible.

Microsoft account security is a big topic, and beyond the scope of this book. But you can and should spend time configuring the security of your account on [the Microsoft Account web site](#).



Recommended actions include:

**Create a complex, hard to remember password and then change it regularly.** And consider using a password manager like LastPass to create and manage this and other passwords.

**Add phone numbers and other secondary forms of security info.** You can and should add multiple phone numbers and email addresses to your account so that you can recover it if it is hacked. You can use sign-in preferences to ensure that only accounts and phone numbers you know to be safe can be used for this purpose.

**Use two-step authentication to further secure your account.** You can use an *authenticator app* on your smartphone to approve sign-in requests, either with a pop-up message, or by getting a code generated by the app. Or, you can simply have Microsoft send you a code by text message. However you do it, two-step authentication will make your Microsoft account more secure, and can help prevent your account from being stolen even if hackers figure out your password.



We recommend [the Microsoft Authenticator app](#), which is available for both [Android](#) and [iPhone](#).

Don't be a statistic: The right combination of security methods—using a Microsoft account with two-step authentication enabled, plus a Windows Hello-based authentication method on each PC—will help ensure that your online account, personal information, and private data is always safe.



We discuss Windows Hello later in this chapter.

## Manage your sign-in account

When you sign-in to Windows for the first time, you're prompted to use your Microsoft account. Whether you did so or created a local account instead, you can now manage your sign-in account and how it interacts with Windows by using the Your info interface in Windows Settings > Accounts.

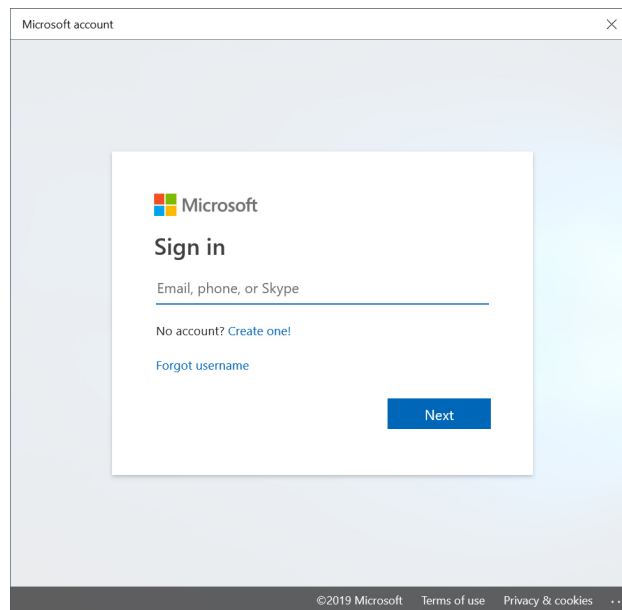
## Convert your sign-in account

If you did sign-in with a local account, you can convert it later to a Microsoft account. Conversely, you can also convert a Microsoft account-based sign-in account to a local account if you wish.

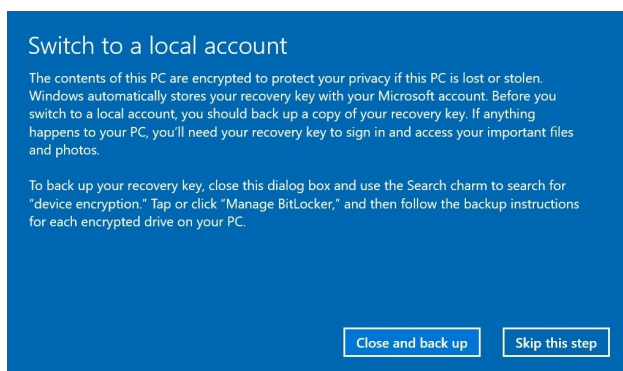


You must be signed-in to an account to convert it. You cannot convert other accounts that are configured on this PC.

To convert your account, navigate to Settings > Accounts > Your info and select the link “Sign in with a local account instead.” A standard Microsoft account sign-in window will appear to help you make the conversion.



If you are already signed-in with a Microsoft account and wish to convert it to a local account—which we do not recommend—this link will read as “Sign in with a local account instead.” A more ominous warning appears.

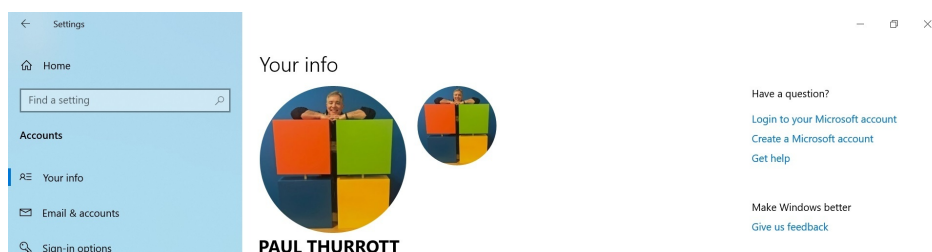


In this case, you will need to supply a user name and password for that account and then sign-out before you can use it. After you do sign-in again, you will need to sign-in to individual apps and services as prompted.

## Configure a user picture

By default, your sign-in account will use whatever photo is associated with your Microsoft account as its user picture. If you haven't configured a photo, or would like to change it, you can do so in Settings > Accounts > Your info.

To do so, select "Camera" or "Browse for one" under Create your picture. The former option will let you use your webcam to take a still shot. And the latter lets you browse with File Explorer to find a picture you like.



## Sync your settings

For the most part, you will want to sync all of your settings to each PC on which you sign-in with your Microsoft account. However, if you navigate to Settings > Accounts > Sync your settings, you can determine whether a few broad settings are synced to and from this PC.

To disable settings sync entirely, change Sync settings to Off.

Otherwise, you can individually determine whether to sync your theme, passwords, language preferences, ease of access settings, and "other Windows settings," as Microsoft vaguely calls it, on a case-by-case basis.

## Manage sign-in account security

In addition to configuring your Microsoft account securely in the cloud, you should likewise configure your sign-in account in Windows to be as secure as possible.

### Configure how you sign-in to Windows

To avoid having to type in a complex password each time you sign-in to Windows, Microsoft provides simpler sign-in options that are more secure too. These features are configured in Settings > Accounts > Sign-in options.

Available sign-in options includes:

**Windows Hello Face.** This modern sign-in technology requires a specially-configured IR camera that is built into your PC. It works in tandem with your account password and a PIN (see below) and can dramatically speed the sign-in process. This is the best of all worlds: Simplicity, ease of use, and great security.



If you do choose to use Windows Hello Face, you will need to configure a PIN as well.

**Windows Hello Fingerprint.** Windows Hello Fingerprint works with the fingerprint readers built-in to some (mostly portable) PCs. It requires just a press of your thumb or some other finger.



If you do choose to sign-in with Windows Hello Fingerprint, you will need to configure a PIN as well.

**Windows Hello PIN.** Rather than type your (presumably lengthy and complex) password every time you sign-in, you can configure a 4-digit (or longer) numeric (or, optionally, alphanumeric) PIN instead. The PIN doesn't replace your password but is rather a machine-specific alternative. This is particularly handy on a tablet or other touch-based device, of course, but it will work on any device type, including traditional PCs.

**Security Key.** Windows supports physical security keys, which usually take the form of a small USB-based dongle. You can use a security key with a key-specific PIN to sign-in to your Microsoft account without having to type a password.

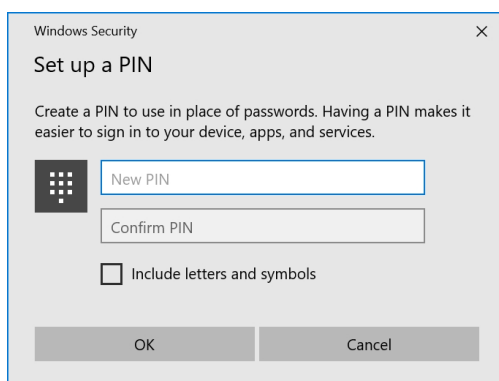
**Password.** In this configuration, you will type in your Microsoft account (or local account) password to sign-in to the PC. This method is only as secure as your password is complex. But it's tedious to sign-in this way because you must type this complex password each time you access the PC.

**Picture Password.** While this option is not recommended, it works best on tablets or other touch-based PCs because you must draw a shape on the screen. As with a PIN, a picture password doesn't



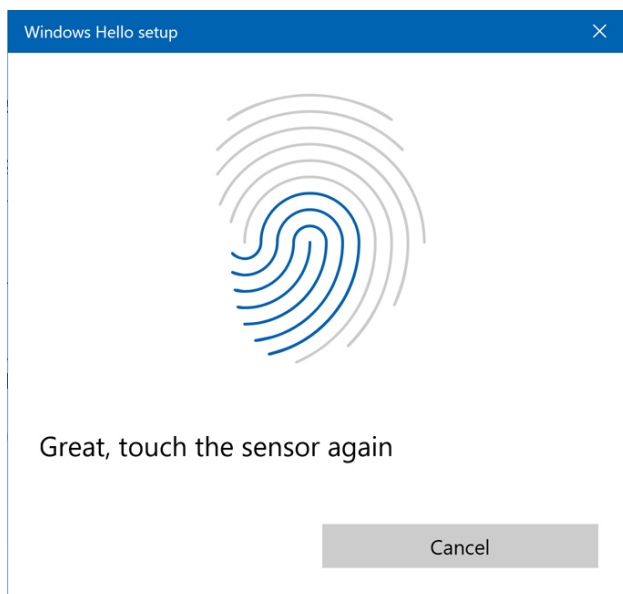
replace your password but is rather a machine-specific alternative. It works with both Microsoft and local accounts, and two-step authentication is optional on the former. (Frankly, a PIN is even easier to use on a touch-based device.)

Each sign-in option has its own enrollment process. PIN is perhaps the simplest: you just need to provide the same four-digit code twice.

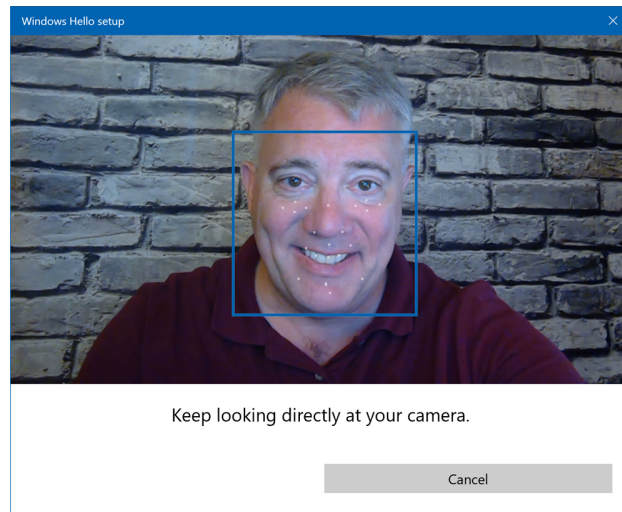


The Windows Hello methods each require you to step through an enrollment wizard that varies according to the type of device.

For a fingerprint reader, this means repeatedly scanning your fingerprint until the system has an accurate reading. (And perhaps enrolling multiple fingers.)



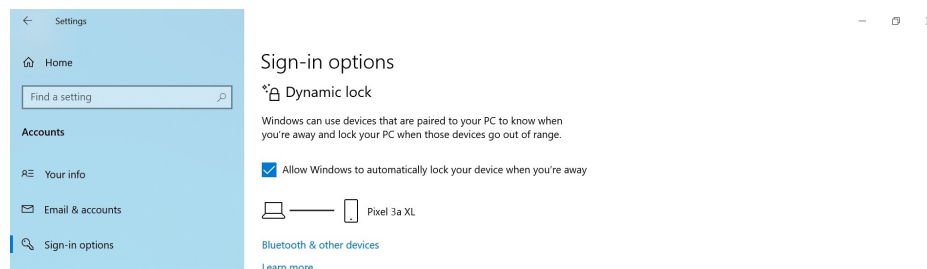
With Windows Hello Face, the camera will scan your face, and will tell you if it can't see you correctly. And that's it: the wizard completes very quickly, though you are given the option to "improve recognition" after initial set up. This can be useful for people who sometimes wear glasses or if you just want to be sure that the system is precise.



## Lock your PC automatically

Windows includes a feature called Dynamic Lock that will automatically lock your PC when a linked device moves away from it. This proximity lock functionality relies on Bluetooth wireless technology and should work with any Bluetooth-enabled device. But it will most frequently be used with a smartphone or a fitness tracker like a Fitbit, since so many people have one of these devices with them at all times.

Setting up Dynamic Lock is very easy: After enabling the feature in Settings > Accounts > Sign-in options, you simply linked a paired Bluetooth-enabled device. (You can configure such devices in Settings > Devices > Bluetooth & other devices). The linked device will display here.



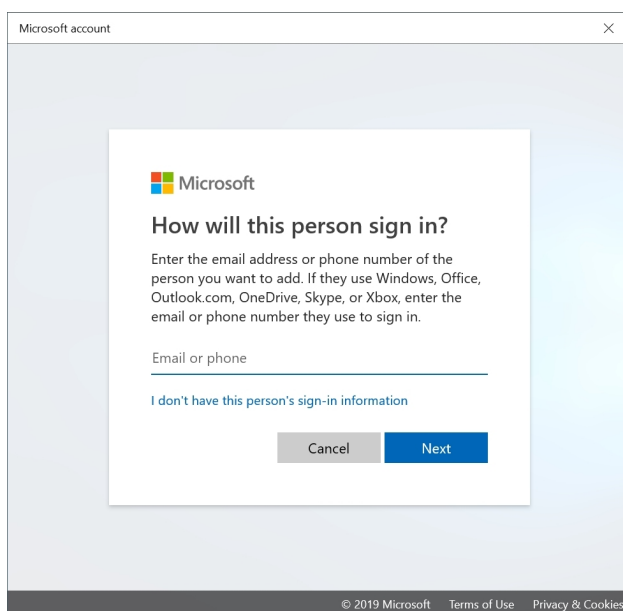
**We recommend that you do not rely on Dynamic Lock.** Beyond enabling Dynamic Lock to work with a specific device, this feature cannot be otherwise configured by the user. That means that it could behave unpredictably based on the performance of the Bluetooth connection between your PC and the linked device. Frankly, and will be better served by manually typing WINKEY + L to lock your PC when you wish to step away.

## Manage other sign-in accounts

In addition to the currently signed-in account, Windows provides various interfaces for managing other sign-in accounts. Each represents a different user—and their associated Microsoft account—that can sign-in to this PC.

### Add another sign-in account

To add a new Microsoft account (or local sign-in account) to the PC, navigating to Settings > Accounts > Family & other people. Then, select the link “Add someone else to this PC.” When you do, a Microsoft account window appears.



If you wish to add an existing Microsoft account, you need only that account’s email address: Enter it as prompted and then select the Next button to continue.



If you would like to create a new Microsoft account or add a local account to this PC, select the link “I don’t have this person’s sign-in information” instead.



We strongly recommend *not* creating a new Microsoft account here. Instead, visit the [Microsoft account web site](#) using your web browser and properly configure a new account with security controls such as two-step authentication. After that is complete, you can use this interface to add that account to the PC.



Accounts added this way are configured as having Standard user privileges by default. See the section *Configure another sign-in account* to learn how to provide Administrator privileges to an added sign-in account.



Windows also lets you add corporate and educational accounts via the Access work or school link in Settings > Accounts. If you need to do this, your organization will provide instructions.

## Configure another sign-in account

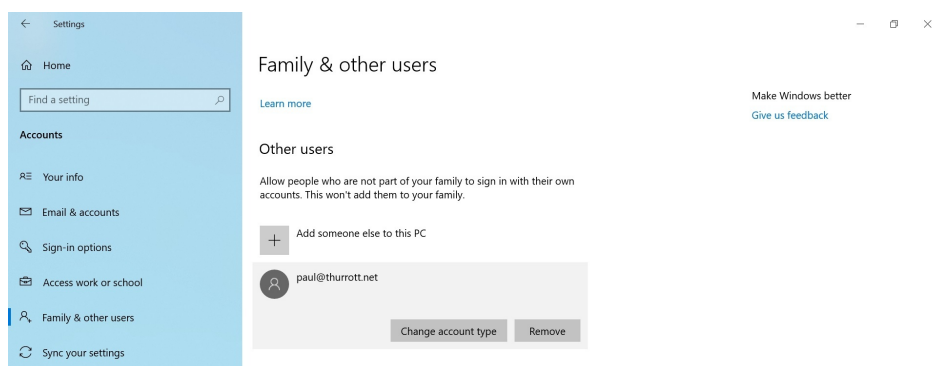
The accounts you use to sign-in to Windows will be configured as having one of two basic levels of access privileges: Administrator or Standard User.

A sign-in account with Administrator privileges can make configuration changes that impact any user account on the PC. A user with Standard privileges, meanwhile, can only make changes that impact *that* account. By definition, it is safer to use a Standard User account, but you will sometimes need to authenticate certain actions by providing an Administrator account password if you do so.

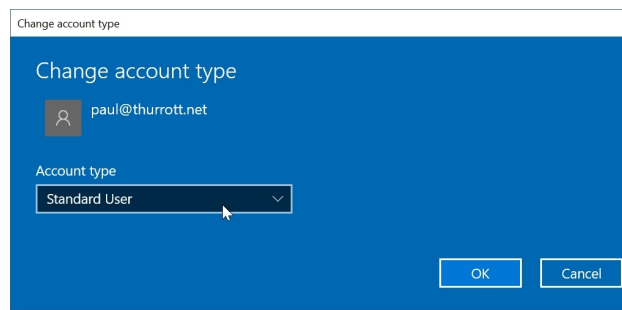


When you first set up Windows, you are asked to create a sign-in account, which can be either a Microsoft account or a local account. This first sign-in account always has Administrator privileges. And the PC must always have at least one account with Administrator privileges.

When you add a new sign-in account to the PC, it is configured as a Standard User by default. To change this, select the user you wish to modify in Settings > Accounts > Family & other people. When you do, a selection box appears with Change account type and Remove buttons.



Select the Change account type button. The Change account window appears.



Use the Account type drop-down to change Standard User to Administrator.



You can use this interface to reverse this configuration at anytime as well, of course.

## Delete another sign-in account

To delete a sign-in account from the PC, navigate to Settings > Accounts > Family & other people and select the account you wish to remove under “Other people.” Then, select the Remove button in the selection box that appears. You will be prompted to ensure you wish to delete this account and all of the user’s associated data.



You cannot delete the account you’re currently using. To remove that account, you must sign-in with another account first. If your account is configured with Administrator privileges, you must have one other Administrator-type account configured on the PC before you can delete it.



Deleting a Microsoft account only deletes the sign-in account on this PC. It does not delete the Microsoft account from the Internet.

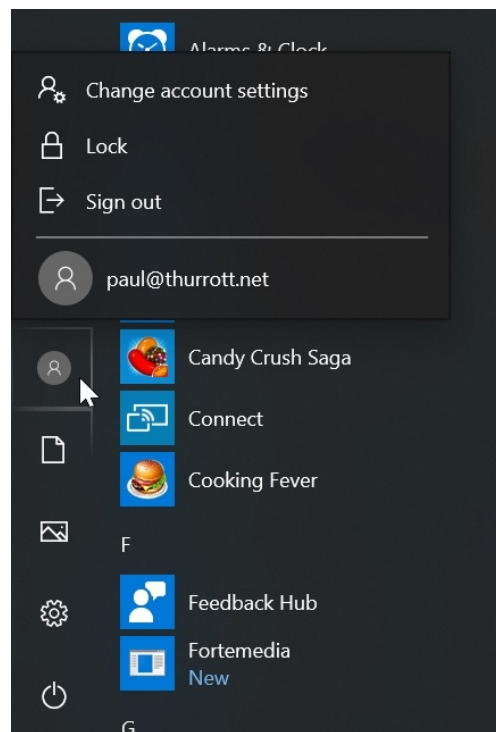
## Sign-in as a different user

Windows lets you or another configured user sign in to the PC at any time. You can do this while your current user account is still signed in, or you can optionally sign out first.



Yes, this means that multiple users can be signed in to Windows simultaneously. But only one user account can be used interactively at a time.

To *switch* user accounts—that is, sign in with a different account while leaving the current account signed in as well—open Start and select your user picture or name in the leftmost column.

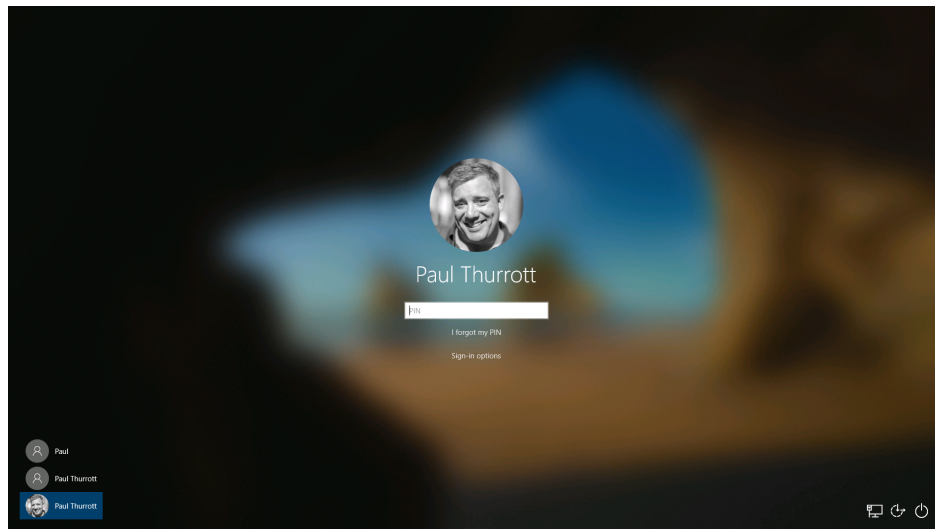


Then, select the user account you wish to use from the drop-down list. (As in *paul@thurrott.net*, above.) The sign-in screen for that user will then appear, letting you access that user's custom Windows experience.



You could also *lock* the PC (by typing WINKEY + L, or by clicking your user picture or name at the bottom left of Start and choosing Lock). Then, you could sign-in with another account normally, and your original account would remain signed-in too. Lock is a convenient way to prevent others from accessing your data when you're away from the PC.

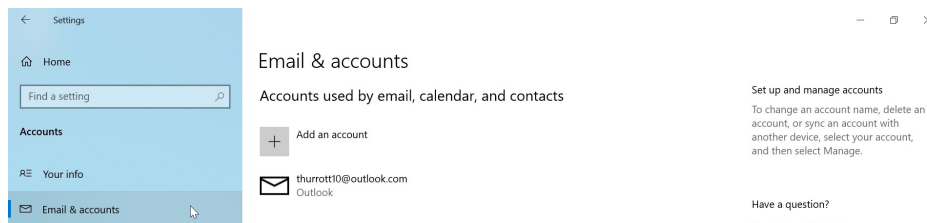
Of course, you could also sign out from the current user account. Then, you will be confronted with a sign-in screen listing all of the available user accounts on the PC. Just select the user you wish to use at the lower left and then sign-in with that account.



## Configure email accounts

Windows lets you configure multiple accounts that will be used by the Mail (email), Calendar, and People (contacts) apps. These accounts include Outlook.com, Exchange/Office 365, Google (Gmail), Yahoo!, (Apple) iCloud, and older, email-only POP and IMAP accounts.

While you can configure these accounts from within any one of those apps, you can also do so in Settings > Accounts > Email & accounts > Accounts used by email, calendar, and contacts.



You should add and configure each account you wish to use with Mail, Calendar, and People before using those apps.

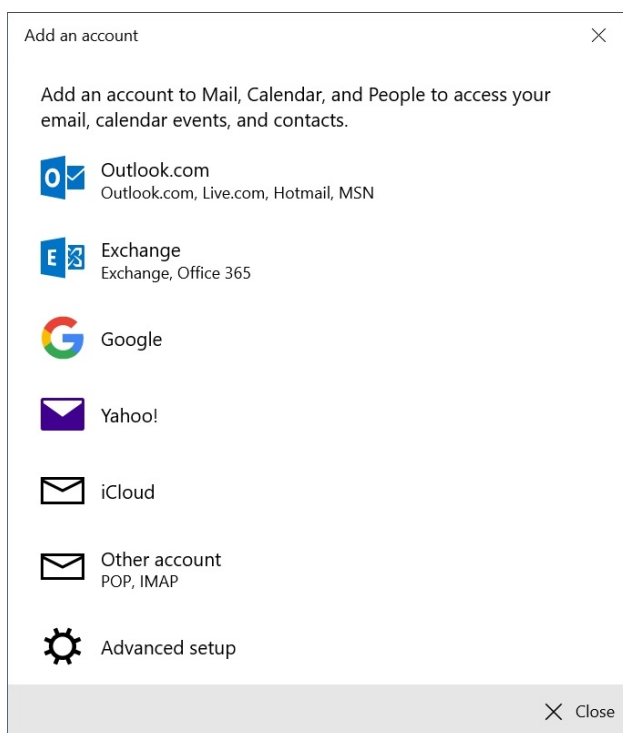


If you sign-in to Windows with a Microsoft account, that account will already be added here. But you will still likely want to examine how it is configured and make changes as required.

## Add a new email account

Mail, Calendar, and People are automatically configured to use the same Microsoft account that you use to sign-in to Windows. But you can add one or more other email accounts at any time later as well.

To add a new email account, select “Add an account.” The Add an account window appears.



Each choice will present a slightly different wizard that lets you configure the account. When you complete the wizard, you will see the new account appear in the list under Accounts used by email, calendar, and contacts alongside your Microsoft account.



Each account will also appear in Mail, Calendar, and People as appropriate. (Some email accounts support only email and contacts, for example, and not calendar.)



**Do not accept the default settings.** Instead, you will want to further configure each email account, including the Microsoft account you use to sign-in to Windows. This is described in the next section.



## Manage an email account



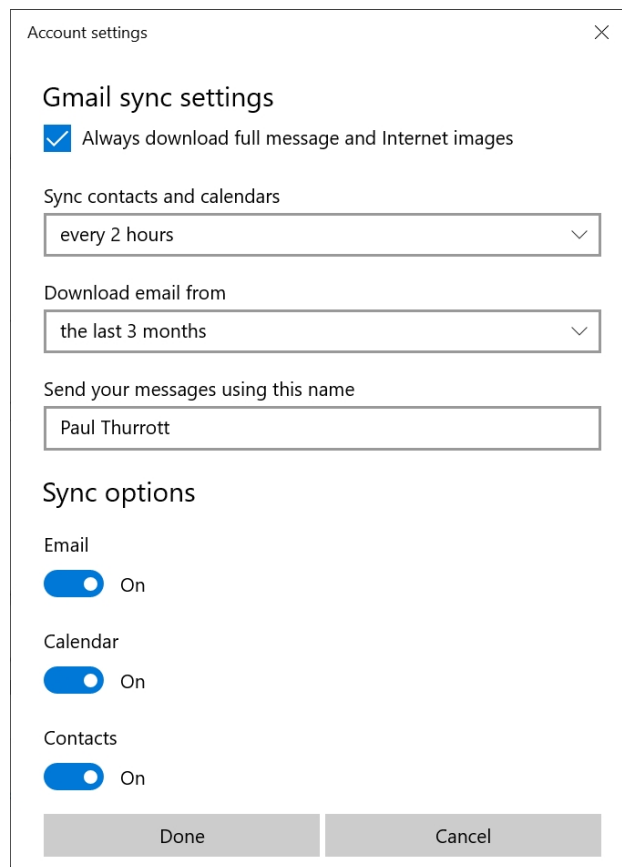
To configure and other manage email account, select it and then select the Manage button. The Account settings window appears.

The screenshot shows a window titled 'Account settings' with a close button (X) in the top right corner. Inside the window, the title 'Gmail account settings' is displayed. Below it, an email icon is followed by the address 'thurrott@gmail.com'. Under the heading 'Account name', there is a text input field containing the word 'Gmail' and a small 'X' button to its right. Further down, there are two sections: 'Change mailbox sync settings' with a link 'Options for syncing your content.' below it, and 'Delete account' with a link 'Remove this account from your device.' below it. At the bottom of the window, there are two buttons: 'Save' and 'Cancel'.

From here, you can make the following changes.

**Rename the account.** Each account is given a name related to the email address of the account. But if that isn't descriptive enough, you can rename the account in the Account name field.

**Change mailbox sync settings.** Select this item to display the Sync settings window, by which you can determine how this account syncs email. As important, however, you can determine whether to sync email, calendar, and contacts information from this account (as supported). So you could choose to sync email and contacts, for example, but not calendar.



Account settings

**Gmail sync settings**

☒ Always download full message and Internet images

Sync contacts and calendars

every 2 hours

Download email from

the last 3 months

Send your messages using this name

Paul Thurrott

**Sync options**

Email

☒ On

Calendar

☒ On

Contacts

☒ On

Done Cancel

**Delete account.** This removes the email account from your PC and from the Mail, Calendar, and People apps. (It does not remove any sign-in accounts.)

## Configure app accounts

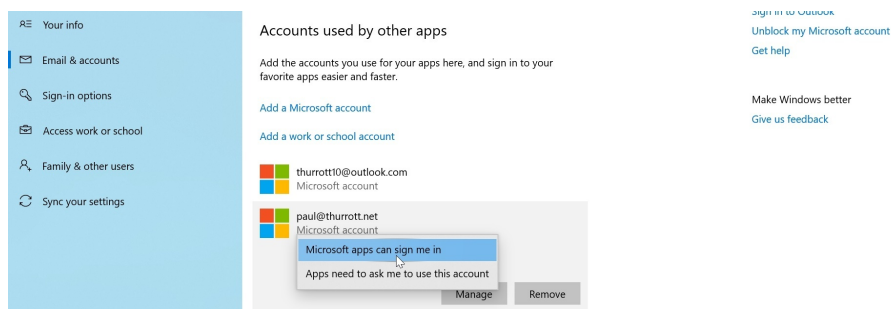
In addition to the email (and calendar and contacts) accounts discussed above, Windows also lets you configure Microsoft accounts for use in individual applications. That is, you can sign-in to Windows with one Microsoft account (or a local account) but then sign-in to one or more apps using a different Microsoft account.

If you know that you will want to sign-in to one or more apps using a Microsoft account that is different from your sign-in account, you can add it here. Then, you can switch between your accounts in supported apps.

To add an app account, navigate to Settings > Accounts > Email & accounts > Accounts used by other apps. Then, select the link “Add a Microsoft account.” You’ll be prompted to sign-in to and authenticate your Microsoft account. Then, that account will be listed alongside your sign-in account under Accounts used by other apps.

To determine how an app account works, select it in the list and then select the “All apps can sign

me in” link dropdown. You can optionally change this behavior to “Apps need to ask me to use this account.”

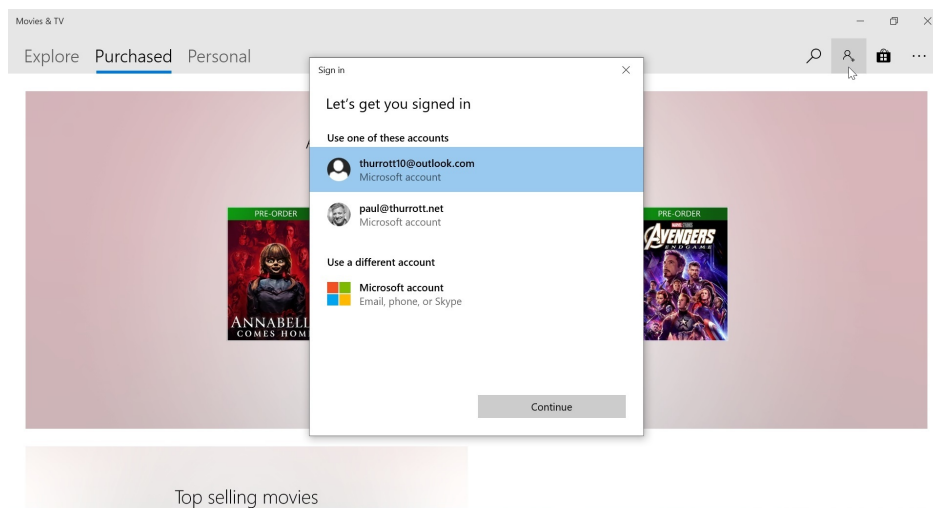


The Manage button opens the Microsoft account website.

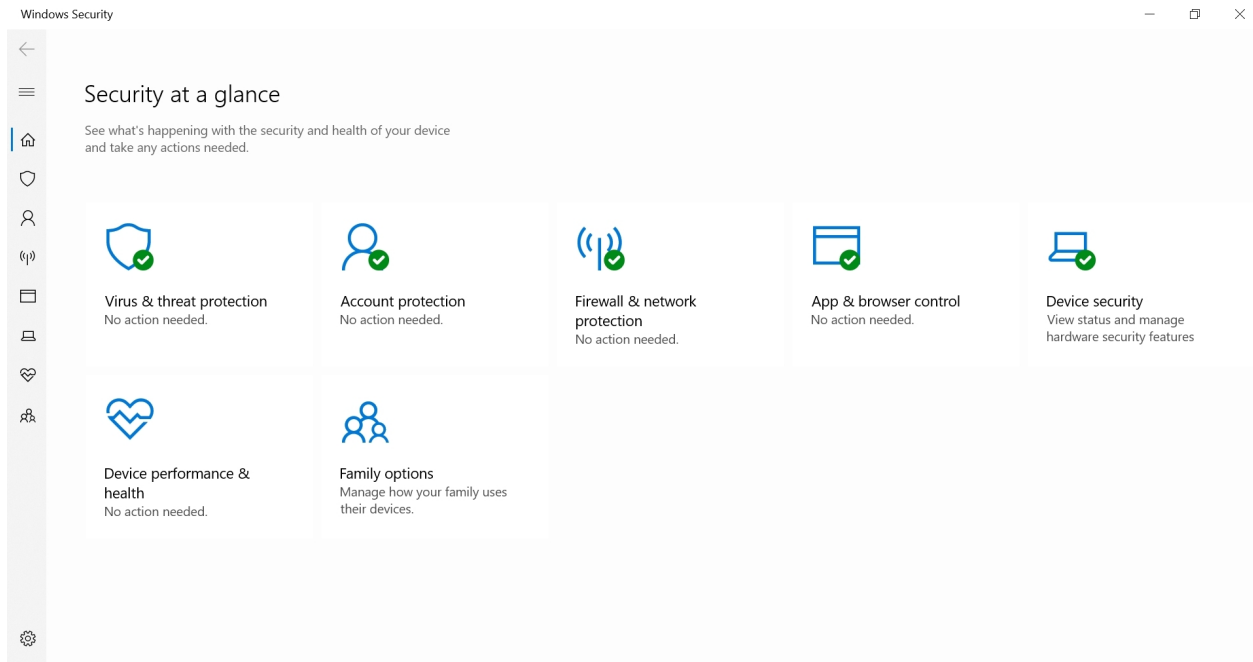


You can't change how your sign-in account works with apps.

To sign-in to this account in a supported app, open the app—I'll use Movies & TV in this example—and select the Account button. (This is in different places in different apps.) You can now choose between your configured app accounts.



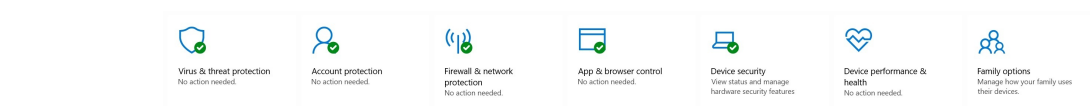
# Security



Windows provides numerous security features that help protect you, your data, and the PC itself. Much of this simply works behind the scenes, and requires little or no input from you. So this chapter focuses on those features you really need to know about, or can manage or configure in some way.

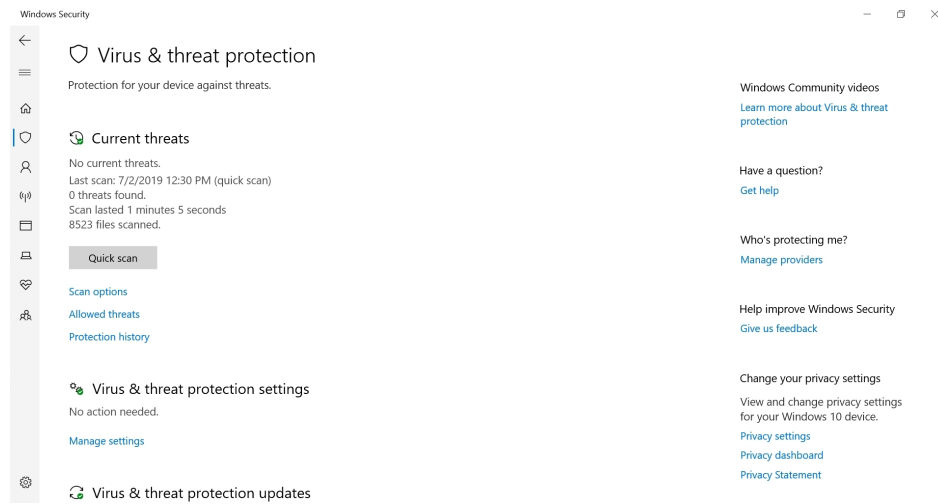
## Get to know the Windows Security app

Because the many security features in Windows are scattered throughout the system, Microsoft has created a nice dashboard-based app called Windows Security that helps you quickly assess whether your PC is protected from threats. The green check marks next to each area in the main page indicate that the system is healthy, secure, and up-to-date.

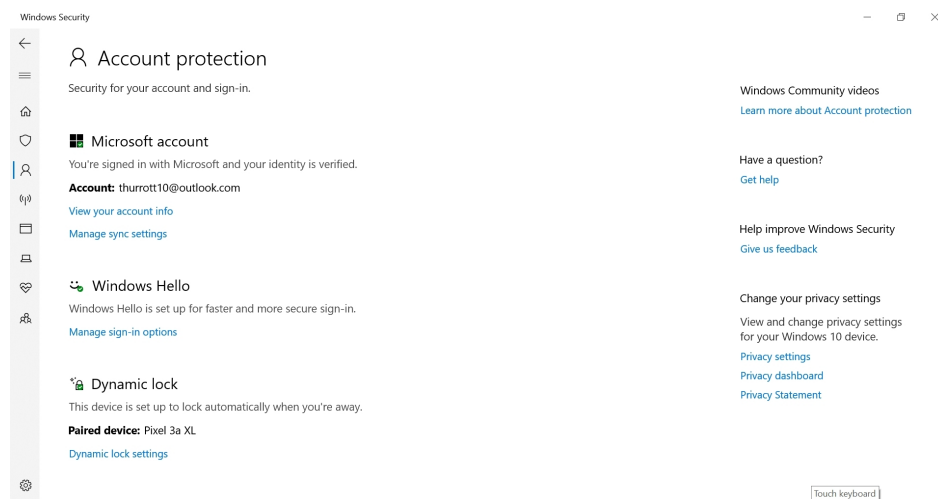


Available items here include:

**Virus & threat protection.** This page provides a front-end to Windows Defender, the anti-virus and antimalware solution that is built-in to Windows.

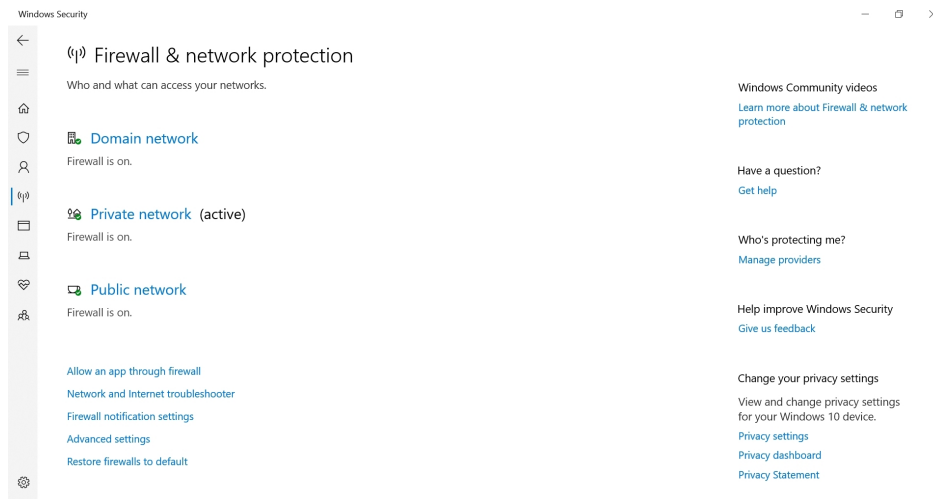


**Account protection.** This page provides links to various parts of the Accounts are of the system Settings app related to your user account: Account info, Sign-in options, and Dynamic lock.



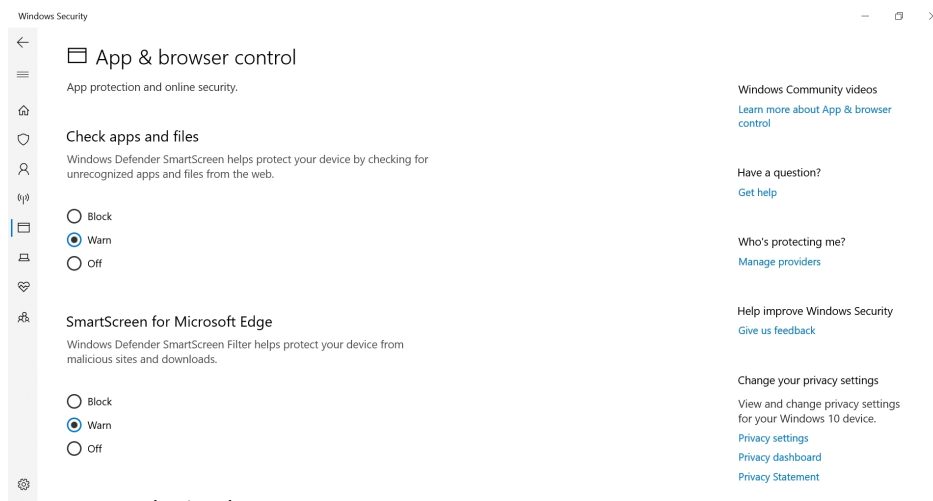
All of these features are discussed in the Accounts chapter.

**Firewall & network protection.** Here, you will see a friendly interface to the firewall that Microsoft provides with Windows. For the most part, you will never need to change any of the settings you see here.

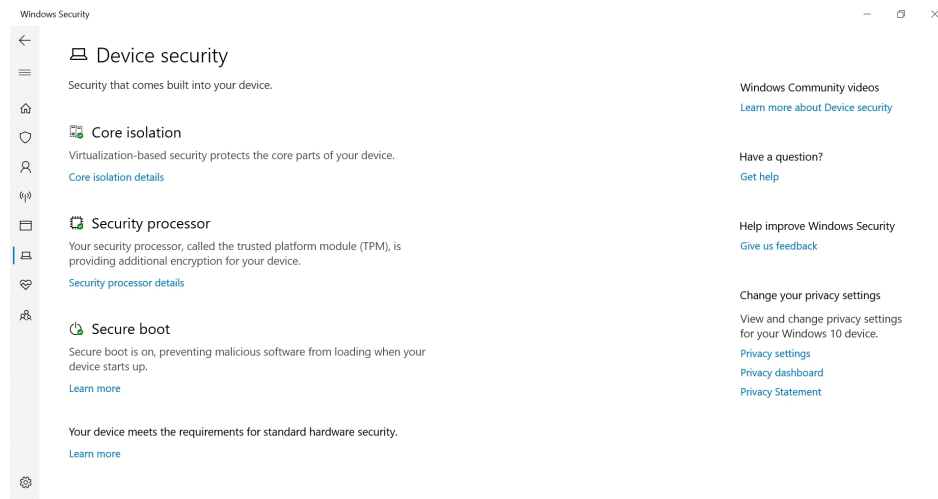


While you will not usually need to access the legacy interface to the firewall, called Windows Defender Firewall with Advanced Security, you can do so by selecting the “Advanced settings” link here.

**App & browser control.** This page lets you determine how Windows behaves when you download potentially unsafe applications from the web, encounter potentially malicious websites, or use Store apps that work as a front-end for a website or other web-based content. And the exploit protection functionality lets you customize advanced technologies in Windows that are designed to protect the system from being compromised. Typically, you will never need to configure any of these features.

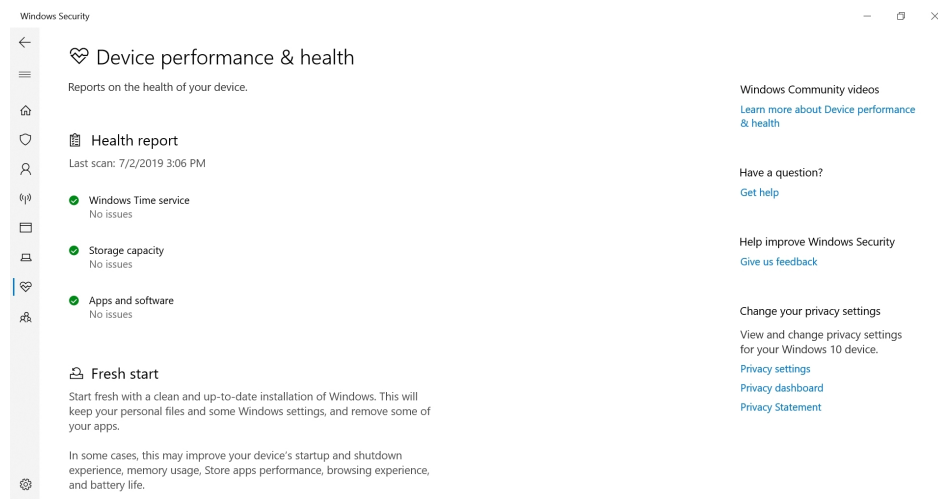


**Device security.** Here, you can view but not edit the condition of three hardware-based security features—core isolation (for preventing memory-based attacks), security processor (the trusted platform module), and Secure Boot (which prevents offline attacks during reboots)—in your PC.



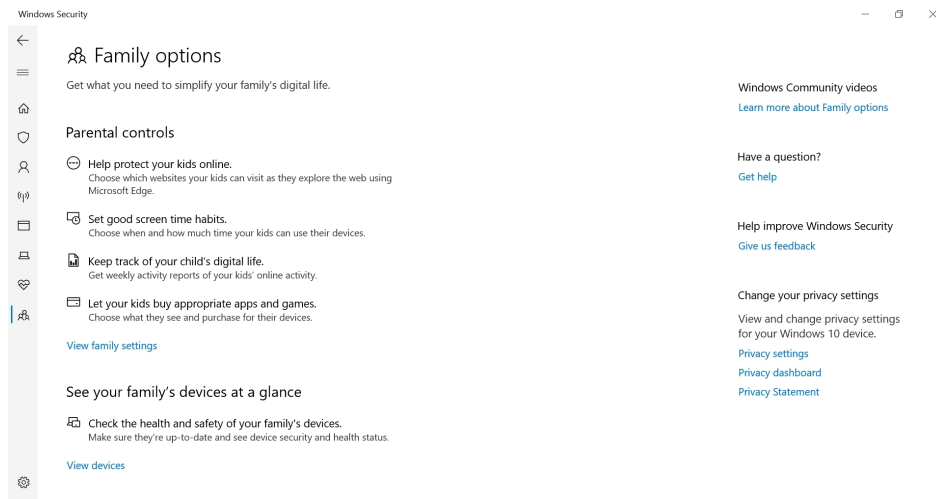
If you are using Windows in S mode, you will only see the Core isolation option here. You cannot configure Security processor or Secure boot while in S mode.

**Device performance & health.** This page provides a mini-dashboard related to the health of your PC, plus a front-end to Fresh start, a web-based system restore tool.



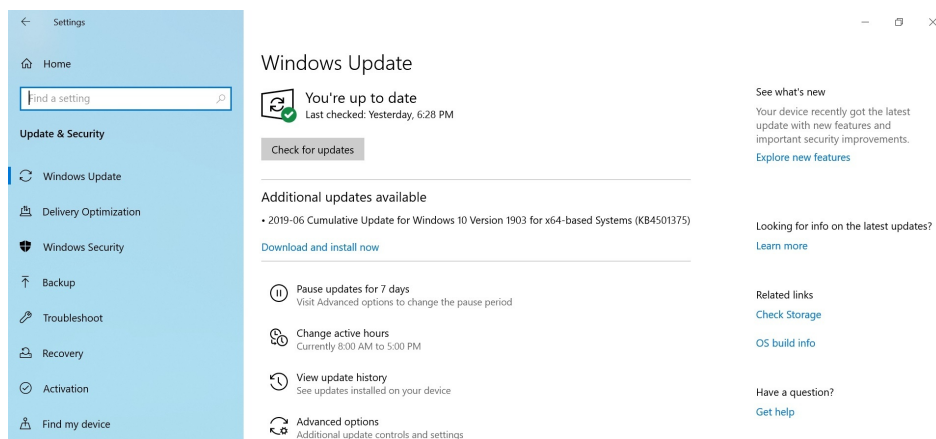
We cover Fresh start and the other recovery tools in Windows in the System Recovery chapter.

**Family options.** This page provides links to Microsoft's parental control functionality on the web.



## Use Windows Update to keep Windows 10 up-to-date

Microsoft services Windows with regular software updates via a mechanism called Windows Update that is available via Settings > Update & Security > Windows Update.



Updates are essentially mandatory, meaning that you cannot permanently disable Windows Update's ability to install these updates. That said, you can delay updates using rules that vary somewhat between Windows 10 Home and Pro.



If you would like to know more about Windows Update and how you can configure this functionality, please refer to the chapter Get to Know Windows 10.



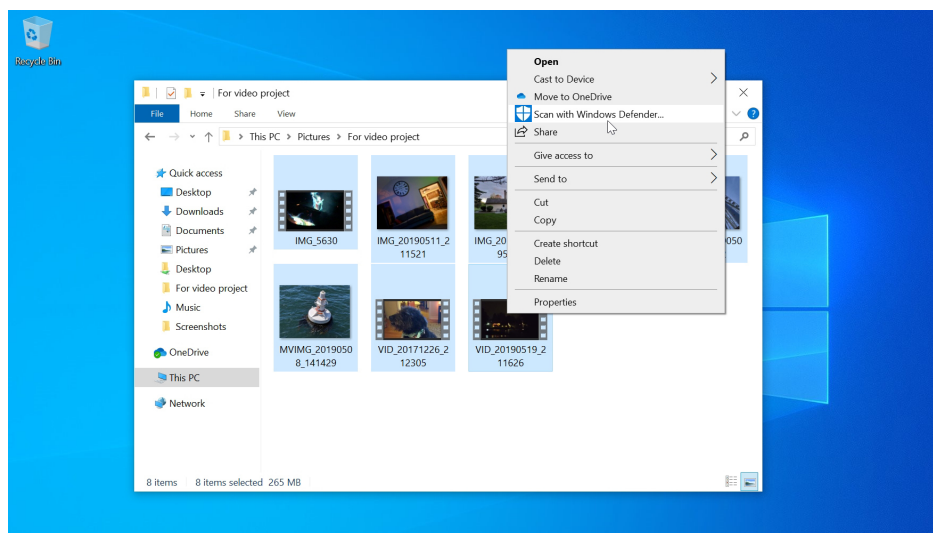
## Use Windows Defender to protect your PC from threats

Protecting Windows against viruses, malware, and other electronic attacks requires a combination of common sense and using and relying on the system's built-in security tools. Key among the latter is a service called Windows Defender.

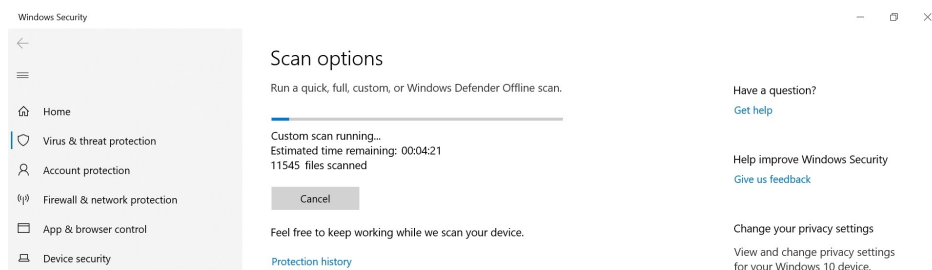
Windows Defender provides highly-rated protection from online threats such as viruses, malware, and even ransomware. But the best thing about this service, perhaps, is that it's automatic. It comes with Windows, works in the background, and is always enabled.

While Windows Defender usually does its thing without any intervention, you may occasionally want to perform a manual scan of a file (or a group of files), a folder (or a group of folders) or even the entire PC.

To scan one or more files or folders—a suspicious file, perhaps—navigate to the appropriate destination, select the item(s) in question, right-click, and choose “Scan with Windows Defender” from the context menu that appears.



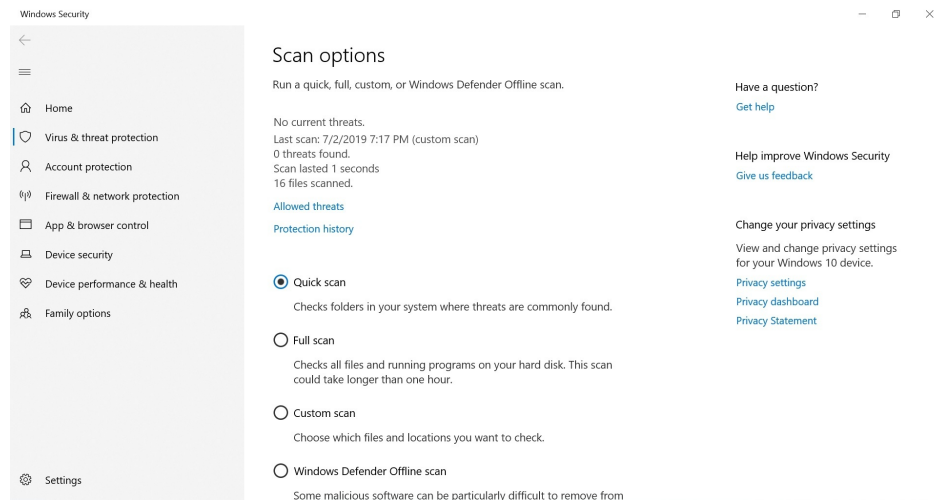
Windows Security opens to the Virus & threat protection page and runs what's called a custom scan on the selected items.





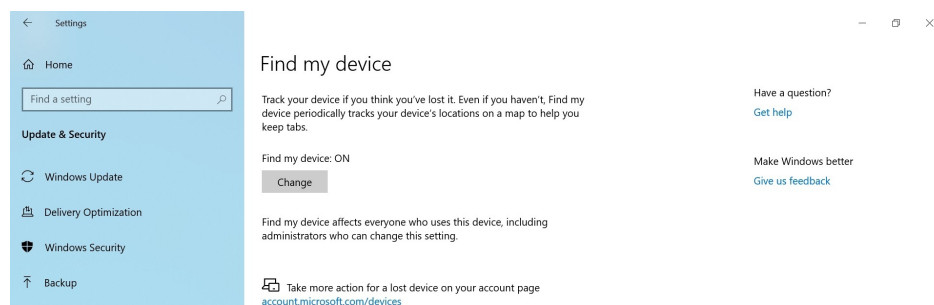
If you're only scanning a small number of files or folders, you may not even see the progress bar: It can happen very quickly.

If you navigate directly to Windows Security > Virus & threat protection, you can also run a quick scan of your entire PC using the Quick scan button. Or, select the “Scan options” link to see different types of scans.



## Find your PC if it's lost or stolen

Windows provides a feature called Find My Device that can help you locate your PC if it's lost or stolen. This feature is located in Settings > Update & Security > Find my device.



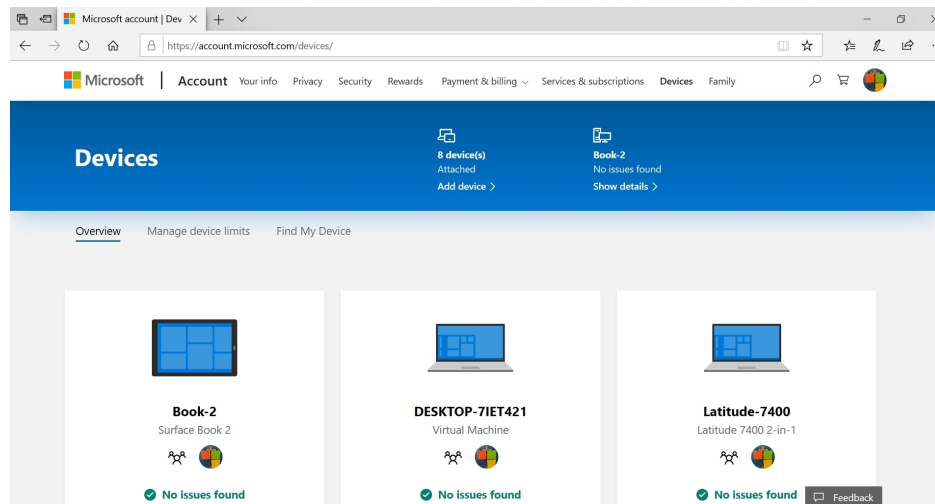
Find My Device is enabled by default if you sign-in to Windows with a Microsoft account.



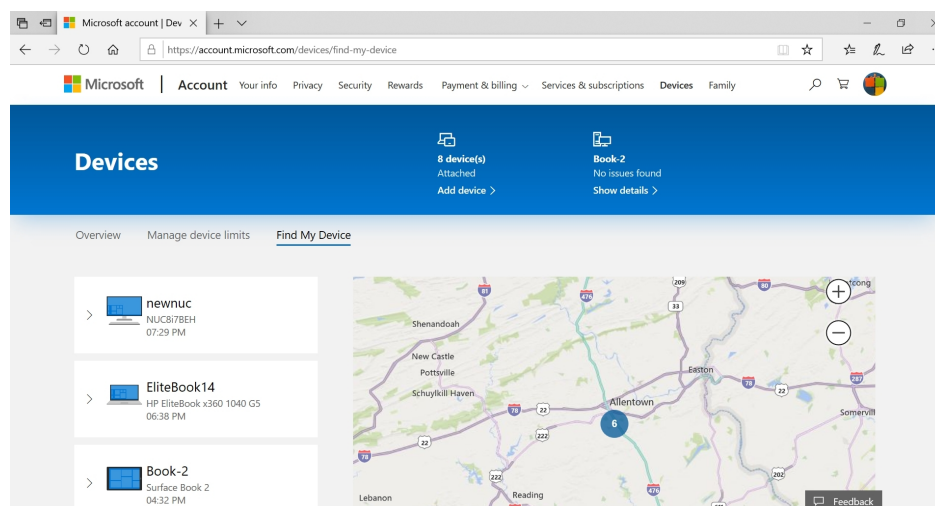
If not, you will need to switch to a Microsoft account to use this feature.

You can view the location of this PC and your other devices by selecting the link under “Take more

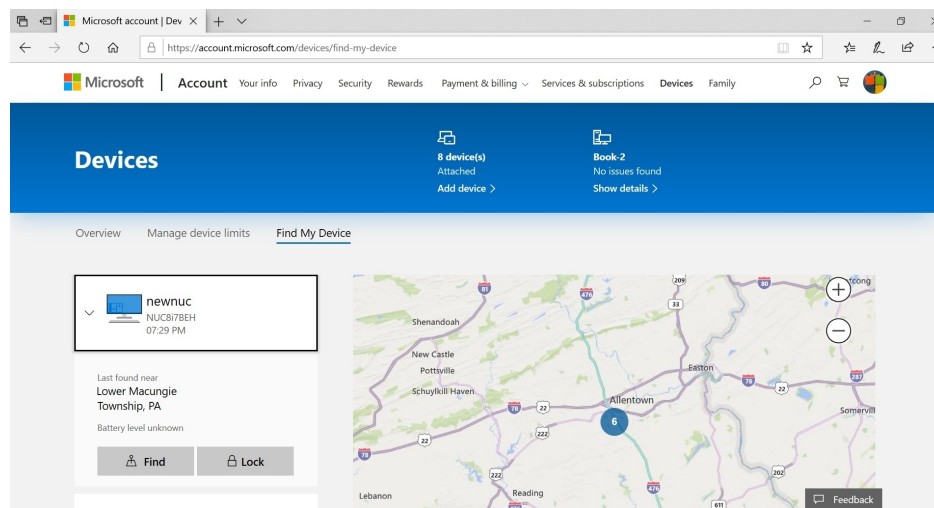
actions for a lost device on your account page,” which opens your web browser and navigates to the Microsoft Accounts web site at [account.microsoft.com/devices](https://account.microsoft.com/devices).



Select “Find My Device.” A map view with a list of your PCs appears.



Now, select the PC you're trying to find in the list. The view expands to display more options.



From here, you can select the Find button to locate that particular PC on the map. Or, select the Lock button to remotely lock the PC, preventing anyone who finds it from accessing your data. This function will also enable location tracking so that you can continue to find it in the event of theft.

## Use BitLocker to secure your personal data

Windows supports a disk *encryption* feature called BitLocker that can prevent others from stealing the documents and other data you store on internal (fixed) and removable storage. This way, if someone physically obtains your PC or an encrypted removable disk—honestly or not—they will not be able to access the data it contains.



You can only *encrypt* disks with BitLocker if you're using Windows 10 Pro. However, once a disk is encrypted with BitLocker, you can *use* it with any supported Windows version, including Windows 10 Home.

BitLocker provides what's called *full-disk encryption*. That is, it encrypts an entire storage device—really, a partition—only, and cannot be used to protect an arbitrary selection of folders or files.

Any files that are copied or moved *to* an encrypted disk are encrypted during the copy or move process. Likewise, any files that are copied/moved *from* an encrypted disk are *decrypted* during that process as well. Decrypted files can be read or used by anyone, on any PC.



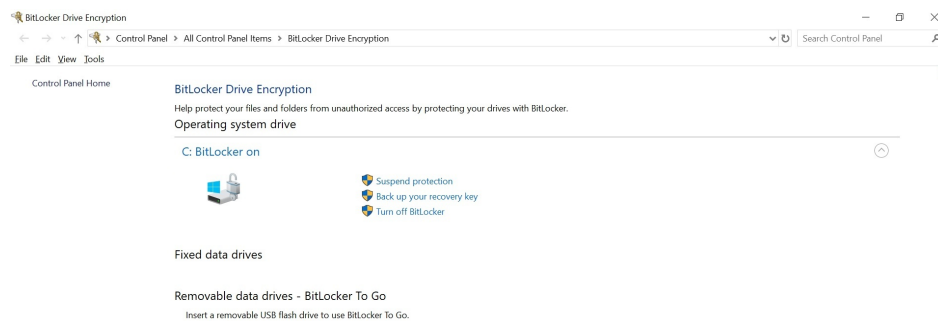
For the system disk to be encrypted, your PC must have a compatible security chipset called Trusted Platform Module (TPM), version 1.2 or newer.



BitLocker also provides some additional functionality to the system disk—the disk on which Windows is installed—which is encrypted by default. For example, when the PC boots, it will examine the integrity of the system to ensure that nothing suspicious has happened to the PC’s firmware or startup files. If an issue is found, you’ll be prompted to provide the BitLocker recovery key, which is like a very lengthy password. (This is discussed below.)

## Manage BitLocker

BitLocker is managed with the BitLocker Drive Encryption control panel, a legacy system management interface from previous Windows versions.

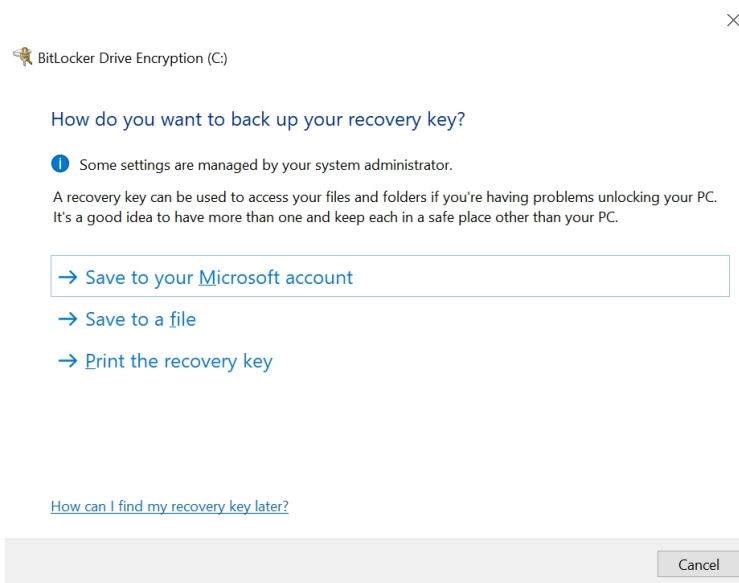


From here, you can manage any encrypted fixed disks and removable drives or encrypt any non-encrypted fixed disks and removable drives.

You can perform the following actions to a BitLocker-encrypted fixed disk such as your system disk:

**Suspend protection.** In rare cases—such as when your PC requires a firmware update—you may need to temporarily disable the protection provided by BitLocker’s full-disk encryption. This link will allow you to do so.

**Back up your recovery key.** This link displays the page of the BitLocker Drive Encryption wizard, described in more detail below, that lets you back up your BitLocker recovery key to your Microsoft account, local file, or printout.



**Turn off BitLocker.** If you wish to disable BitLocker entirely, this option will let you do so. Removing encryption can be time-consuming, but you can at least continue using the PC while this process occurs.

## Encrypt a fixed hard disk

You can encrypt any fixed (internal) hard disks that are attached to your computer.



You can also encrypt removable disks, like USB memory sticks and hard drives. This is covered in the section *Encrypt removable storage* below.

To encrypt a fixed disk, select the “Turn on BitLocker” link next to the appropriate disk under “Fixed data drives” (or, if it’s your system disk, under “Operating system drive”). The BitLocker Drive Encryption wizard starts and progresses through the following steps:

**How do you want to back up your recovery key?** First, the wizard will prompt you to back up the recovery key for the disk. This key can be used to unlock the drive if you try to access it from another computer, or if you try to reset the PC. Refer to the section *Use the BitLocker recovery key* for information about finding this recovery key later if you need it.



Do not lose this key. The safest place to back it up is to your Microsoft account. Assuming, of course, that you’ve secured that account as recommended at the beginning of this chapter.

**Choose how much of your drive to encrypt.** If this is a new disk, the default choice—“Encrypt used disk space only”—is fine, as there won’t be any private data hiding in unused portions of the

disk. But if you are encrypting a disk you’ve been using for a while, the second option—“Encrypt entire drive”—is safer, albeit slower.



You can continue using your PC while BitLocker encrypts the disk, so there’s no good reason not to choose the second option with a previously-used disk.

**Choose which encryption mode to use.** Windows now provides an improved encryption scheme that is incompatible with older versions of Windows, including Windows 7, Windows 8.x, and the initial shipping version of Windows 10 (version 1507, from 2015). But this isn’t an issue for fixed disks: So just choose the default “New encryption mode” option.



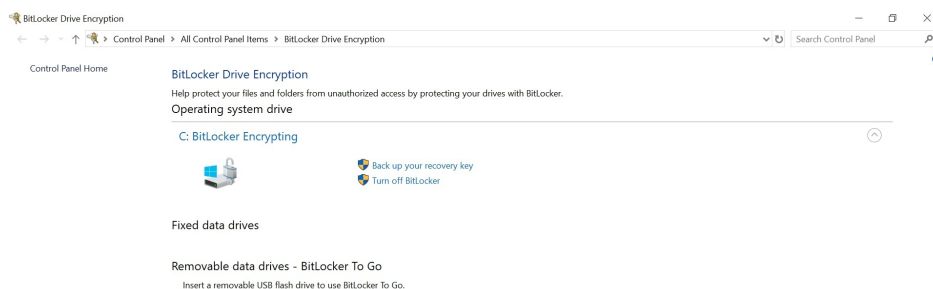
If you are encrypting removable storage, as described below, the second option, “Compatible mode,” may be preferable since that disk can be used with multiple computers, including some that might be running an older Windows version.

**Are you ready to encrypt this drive?** This is the moment of truth. If you’re ready to encrypt the drive, you will need to shut down all of your other applications now, as the PC will need to reboot first.



Be sure to select the “Run BitLocker system check” option before proceeding. Doing so will cause the wizard to ensure that BitLocker can read the recovery and encryption keys properly before encrypting the drive.

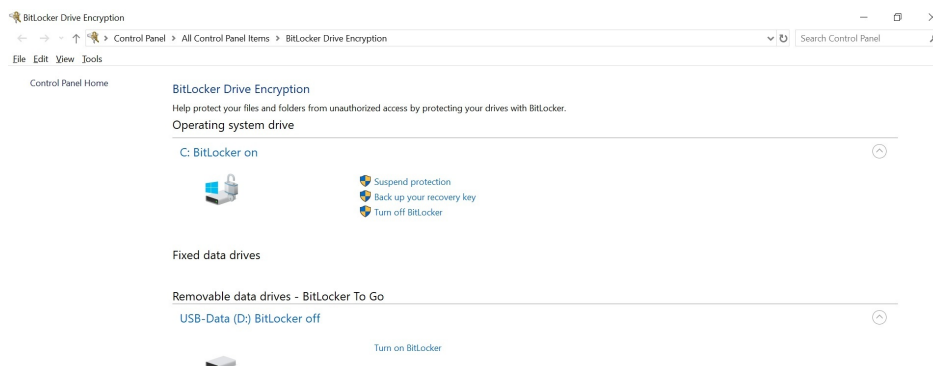
Once the PC does reboot, you can sign-in and continue working normally while the disk is encrypted. Note that this process can take quite some time, especially for larger, already-used disks. Windows will not prompt you when this process completes, but if you open the BitLocker Control Panel, you can see where it’s at.



## Encrypt removable storage

You can encrypt a removable storage device—like a USB memory stick or hard drive—using a Windows feature called BitLocker To Go.

To do so, insert the removable storage device into a USB port in your PC and then display the BitLocker Drive Encryption control panel. The device will appear under “Removable data drives - BitLocker To Go.”



Now, select the “Turn on BitLocker” link next to the appropriate disk under Removable data drives —“ BitLocker To Go. (You may need to click the caret at the right to expand the view first.)

The BitLocker Drive Encryption wizard starts and progresses through the following steps:

**Choose how you want to unlock this drive.** Here, you must choose a method to unlock the disk. This can be a password—the typical method for most individuals—or a smart card, which is used in corporate environments and controlled by policy. Select “Use a password to unlock the drive” and then supply the same password twice in the provided fields.

**How do you want to back up your recovery key?** Next, the wizard will prompt you to back up the recovery key for the disk. This key can be used to unlock the drive if you try to access it from another computer, or if you try to reset the PC. Refer to the section *Use the BitLocker recovery key* for information about finding this recovery key later if you need it.



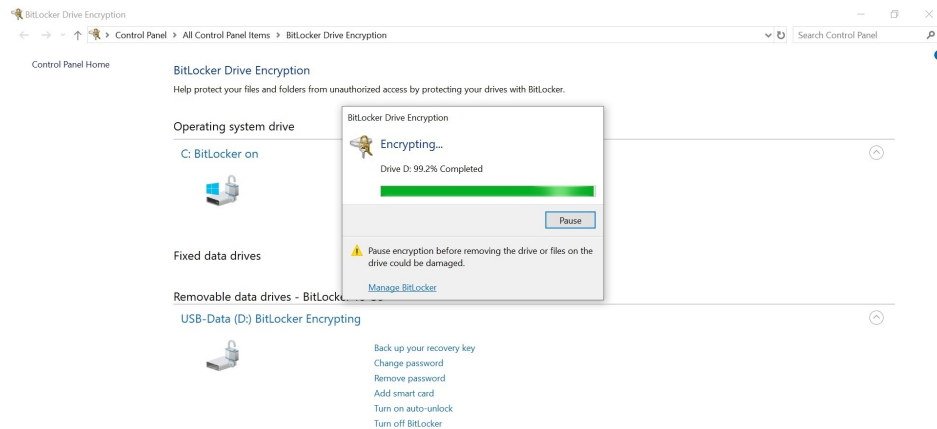
Do not lose this key. The safest place to back it up is to your Microsoft account. Assuming, of course, that you’ve secured that account as recommended at the beginning of this chapter.

**Choose how much of your drive to encrypt.** If this is a new disk, the default choice—“Encrypt used disk space only”—is fine, as there won’t be any private data hiding in unused portions of the disk. But if you are encrypting a disk you’ve been using for a while, the second option—“Encrypt entire drive”—is safer, albeit slower.

**Choose which encryption mode to use.** Windows now provides an improved encryption scheme that is incompatible with older versions of Windows, including Windows 7, Windows 8.x, and the initial shipping version of Windows 10 (version 1507, from 2015). So, you should generally choose “Compatible mode” instead, since the removable disk can be used with multiple computers, including some that might be running an older Windows version.

**Are you ready to encrypt this drive?** If you’re ready to encrypt the drive, select the Start encrypting button. You can continue using your PC while the disk is encrypted.

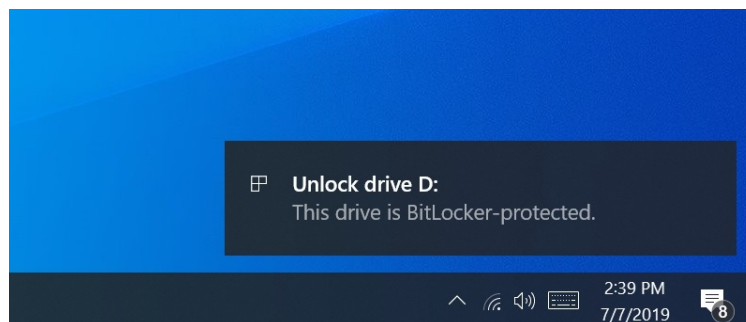




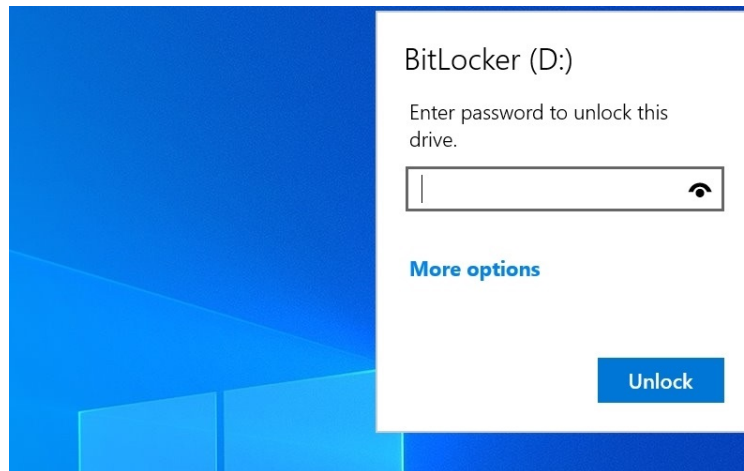
## Use a BitLocker-protected removable disk

You can use a BitLocker-protected removable disk with any supported Windows version, including Windows 7, 8.x, and 10.

When you insert a BitLocker-protected removable disk or use a BitLocker-protected fixed disk for the first time in a computing session, Windows will display a notification in the bottom-right of the screen reminding you that this disk is encrypted.



Select this prompt to enter the BitLocker password and access the disk normally.



If you expand the “More options” link in this password entry prompt, you will see an option to automatically unlock the disk when it’s used on this PC. As long as you’re signing in with a Microsoft account or using a complex password with a local account, this option is safe to enable and can make dealing with BitLocker To Go a lot more seamless.



If you don’t respond to the notification quickly enough, you will need to unlock it with File Explorer: just open the drive as you would normally and the password prompt will appear.

Once you enter the password, the removable disk will behave normally and you can use it just like any other disk.

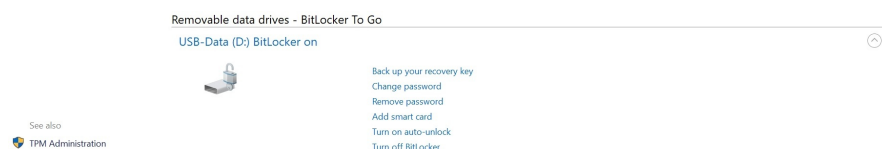
## Manage an encrypted removable disk

Once you have inserted an encrypted removable disk in your PC, you can perform various tasks related to that encryption.



BitLocker To Go disk management requires Windows 10 Pro or better.

You do so with the BitLocker Drive Encryption control panel, where you will now see new options next to your encrypted removable disk.



Available options include:

**Back up your recovery key.** This link displays the page of the BitLocker Drive Encryption wizard that lets you back up your BitLocker recovery key to your Microsoft account, local file, or printout.

**Change password.** This option lets you change the password used to enable access to the encrypted removable disk.

**Remove password.** If you have enabled smart card-based authentication for this removable drive, you can optionally remove the password, which is redundant and potentially less secure.

**Add smart card.** Corporate environments often provide smart cards to their employees as a more secure way to access resources like encrypted disks. This type of thing is very uncommon with individuals, however, and can be ignored.

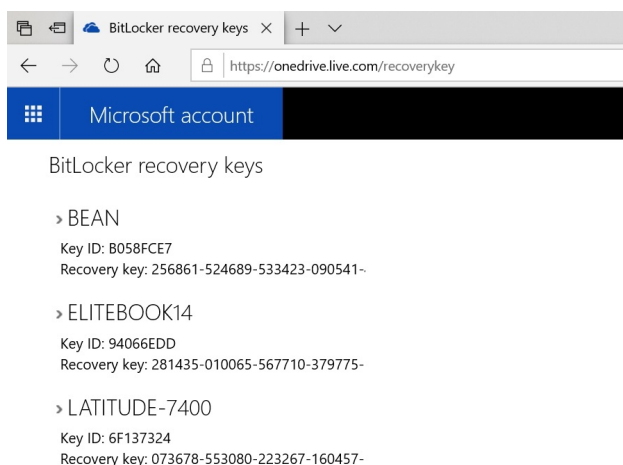
**Turn on auto-unlock.** If you would prefer not to enter a password every time you insert this removable disk on this PC, you can disable that requirement using this option.

**Turn off BitLocker.** If you wish to disable BitLocker entirely, this option will let you do so. Removing encryption can be time-consuming, but you can continue using the PC while this process occurs.

## Use the BitLocker recovery key

You must create a BitLocker recovery key for each disk you encrypt. As noted earlier, we strongly recommend that you save your BitLocker recovery keys to OneDrive, where they can be accessed from any PC for which you have secure access.

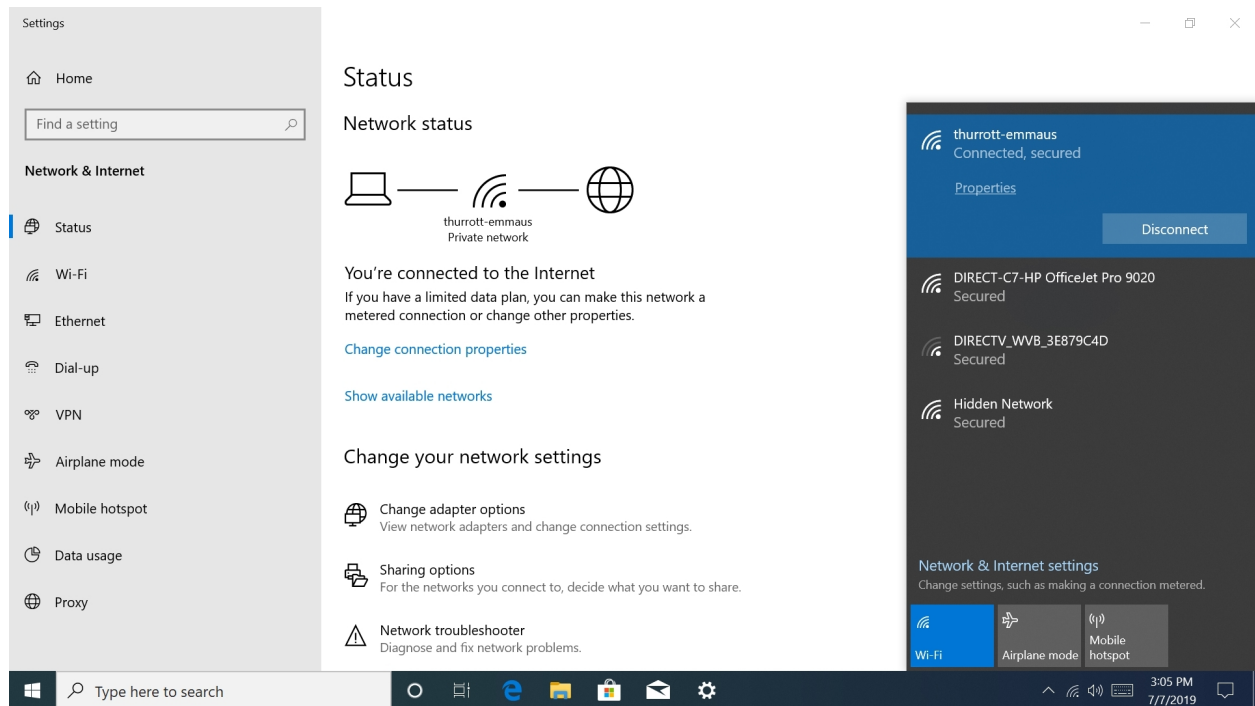
To access your recovery keys in OneDrive, open a web browser and navigate to [onedrive.com/recoverykey](https://onedrive.live.com/recoverykey) with any web browser. After signing in, you'll be presented with the list of keys that are associated with your Microsoft account.



(The recovery keys are each 40 digits long. This image was edited to remove characters from each key.)

You can now use the appropriate recovery key to access an encrypted disk for which you've forgotten the password. You can also use this key if you created a recovery key for the system disk and the PC won't boot because BitLocker discovered a potential issue.

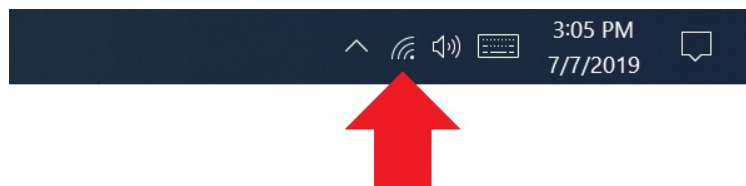
# Networking



Windows supports both wired and wireless networking, including cellular mobile data connections provided by wireless carriers. It also lets you share your Internet connection with other PCs and devices.

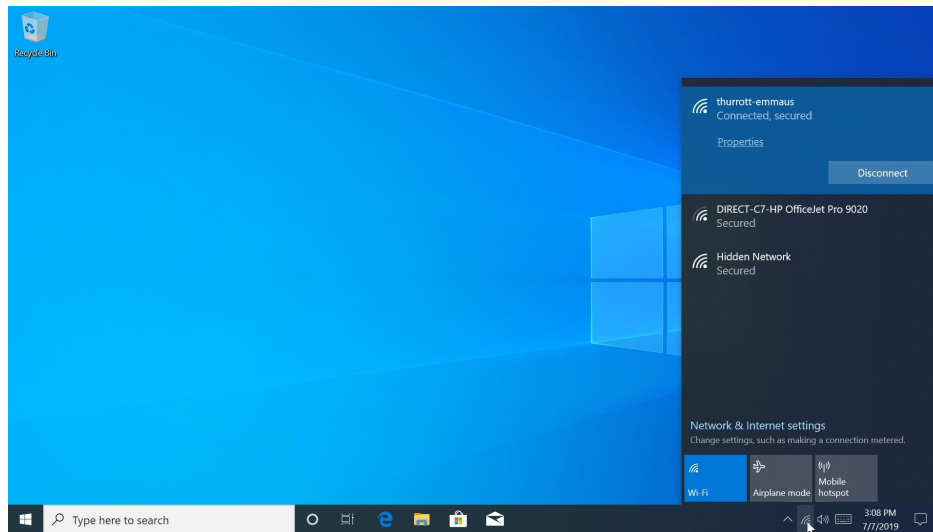
## Get to know Windows networking

Most of your interaction with network connections will occur through the Network icon in the system notification area of the taskbar and the flyout that appears when you select it.

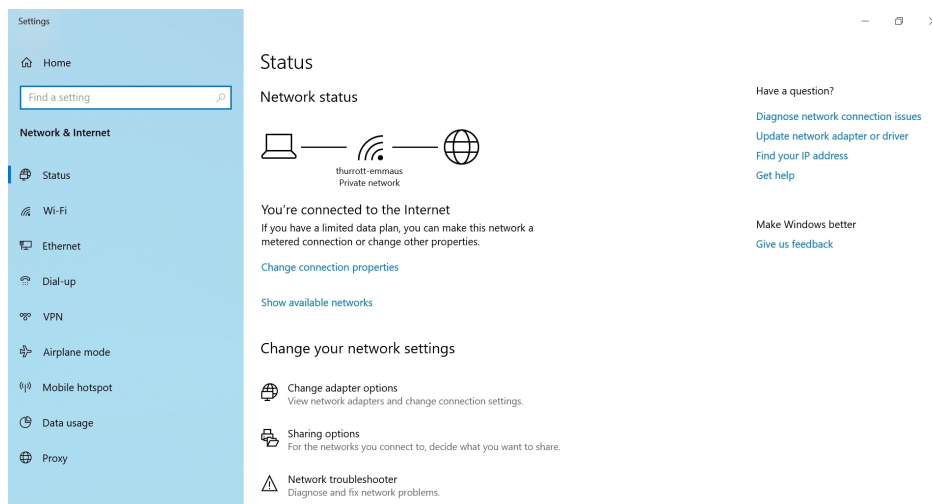


The appearance of this icon will vary according to the type of network connection(s) you have. The icon shown above is for a Wi-Fi wireless network.

When you select the Network icon, the Network access pane appears. This pane provides a single front-end to your connected and available networks plus related features like Airplane mode.



You can also select the “Network & Internet settings” link to open the Settings app to that view.



This interface provides access to most commonly-needed networking configuration possibilities. These include:

**Status.** The default page in Network & Internet settings graphically displays how you're connected to the Internet and provides quick links to commonly-needed networking options.

**Wi-Fi.** Here, you can view and configure each available wireless network and managed related options, including support for HotSpot 2.0 networks, which are free wireless networks in public places that Windows can attempt to connect to automatically.

**Cellular.** If your PC or device can connect to cellular data via an activated SIM (subscriber identity module) card or eSIM (electronic SIM), you can use this interface to manage how Windows behaves

when using a so-called metered connection.



PCs with cellular connections are sometimes referred to as Always-Connected PCs.

**Ethernet.** Here, you can view and configure your wired network and managed related options.

**Dial-up.** Yep, it's 1998 again. If you must use a dial-up networking connection for some reason, this is the place you can configure that.



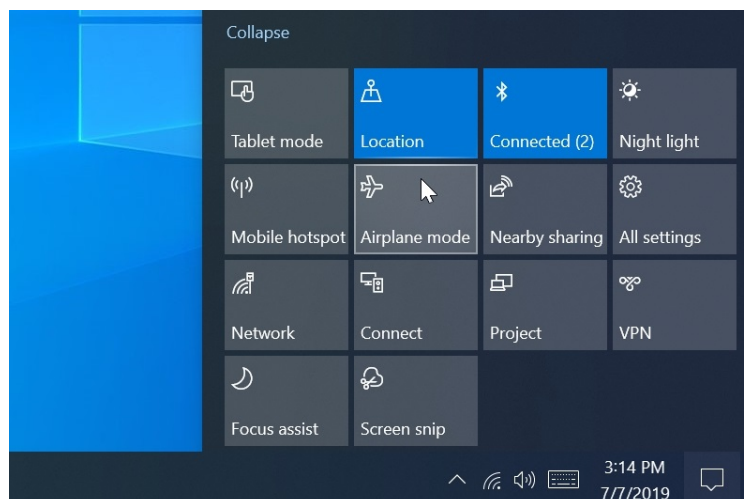
We do not cover dial-up networking in this book.

**VPN.** Windows includes integrated support for VPNs (virtual private networks), which may let you forego having to install a third-party VPN client. You should check with your workplace to determine the best VPN configuration, however: This isn't really an end-user feature.

**Airplane mode.** You can use Airplane Mode to toggle all wireless radios off at once, which can save battery life when you are flying or otherwise disconnected. You can also toggle Airplane Mode and then re-enable individual wireless radios (Wi-Fi, for example, or Bluetooth) individually if needed.



You can most easily toggle Airplane mode on and off via its quick action tile in the Action Center.

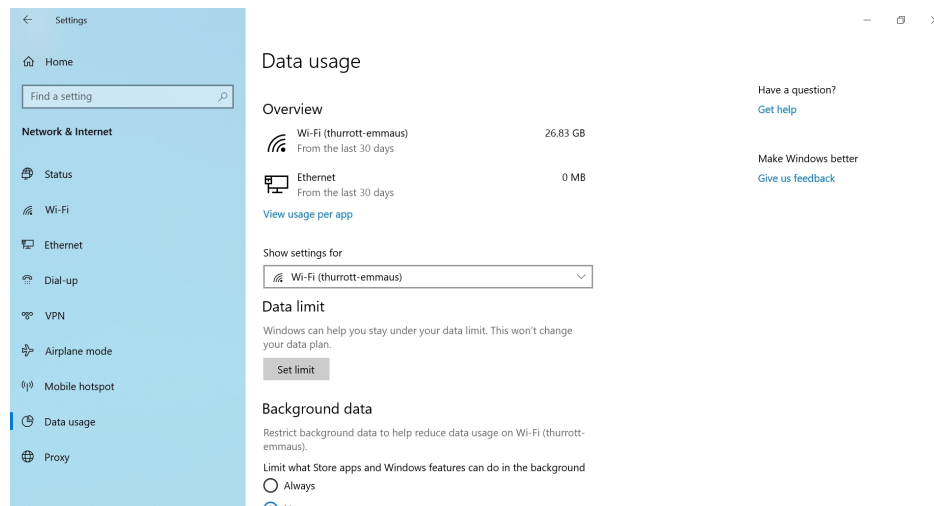


**Mobile hotspot.** Windows lets you share your Internet connection with others via Wi-Fi. You can use this interface to enable and configure that Wi-Fi connection.



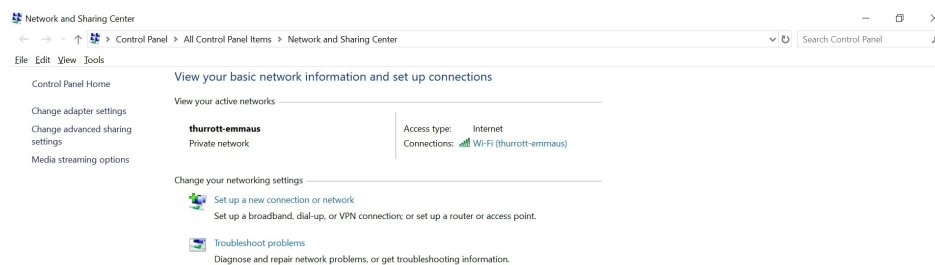
We cover the mobile hotspot functionality in Windows later in this chapter.

**Data usage.** Here, you can see how much data you’ve used on each of your network connections, investigate which apps are using the most data, and, if you have a cellular connection, configure Windows to understand your monthly data allotment and billing cycle.



**Proxy.** This interface lets you set up your network’s *proxy*, which is typically only configured manually by businesses. That is, for the most part, you can ignore this interface.

If you’re an expert who is familiar with configuring networking features using the tools from previous Windows versions, you can also access those legacy networking interfaces. To do so, navigate to Settings > Network & Internet > Status and select “Network and Sharing Center.”



Like other legacy control panels, Network and Sharing Center is deprecated and may be removed from a future Windows version.



## Understand network profiles

Windows supports both private and public network *profiles* with both Wi-Fi (wireless) and Ethernet (wired) connection types.

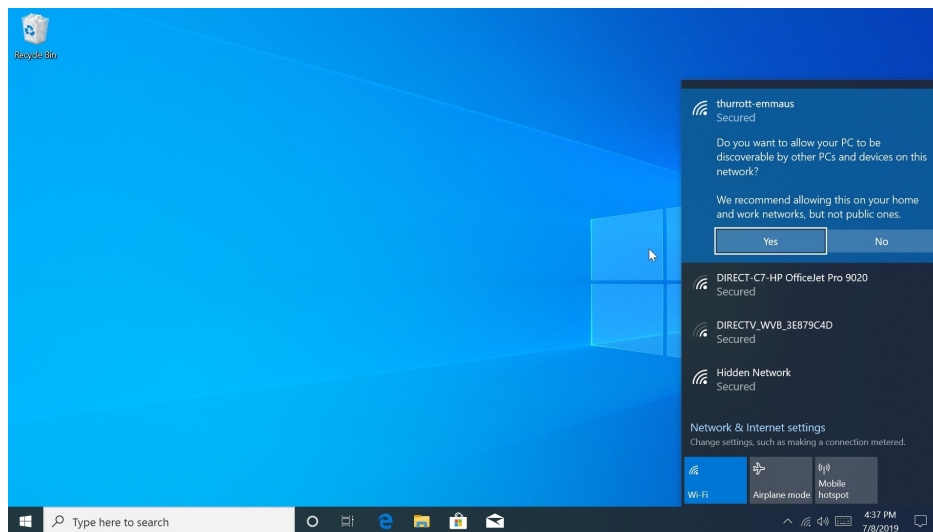
Private and public networks both support Internet connectivity. But there are, of course, important differences between the two profile types.

A *private* network is one that you explicitly trust, such as your home or work network. When you're connected to a private network, your PC is discoverable, meaning that it can be found by other PCs and devices on the network.

A *public* network, like that found in a coffee shop, airport, or other public space, is explicitly not trusted.

## Use a Wi-Fi network

When you first connect to a Wi-Fi network, Windows will prompt you to determine whether your PC should be discoverable.

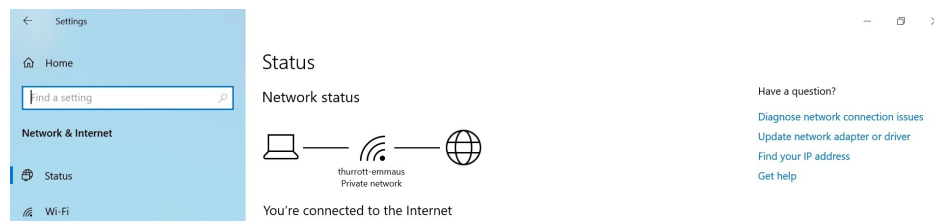


If you're connecting to your home or work network, you should select “Yes” when prompted like this.



*Always select “No” to this prompt when you are connecting to a public network.*

If you do select “Yes,” the network will be configured as a private network, which you can verify by examining the network status in Settings > Network & Internet > Status. However, if you select “No,” the network will be configured as a public network.



To change the network profile for a connection, select the link “Change connection properties” under the appropriate network connection on the Status page. The connection properties page will display.



To change the network profile from public to private, select “Private” under Network profile. (Or, for the reverse, select “Public.”)



Again, *do not* configure a public network as a private network, as hackers could discover your PC and potentially access the information it contains.

## Use an Ethernet network

When you first connect to a Wi-Fi network, Windows will automatically configure the connection as public, providing you with Internet connectivity but no discoverability on the network. The network “connectoid” will indicate that you’re connected via Ethernet.



If this is a public network, that’s what you want.

Otherwise, you can configure the network as private, and make it discoverable by other PCs and devices on the network.

To do so, navigate to Settings > Network & Internet > Status and select the link “Change connection properties” under the appropriate network connection on the Status page. Then, on the connection properties page that appears, select “Private” under Network profile.



Again, *do not* configure a public network as a private network, as hackers could discover your PC and potentially access the information it contains.

## Use a cellular data network

If your PC supports cellular data services provided by a wireless carrier, you can use this connection to access the Internet, just as you do with your smartphone.



Many Windows PCs and devices do not provide this capability today, but that doesn't mean you can't take advantage of a cellular data plan you're already paying for. Most modern smartphones can share their data connection, and those connections will appear as normal Wi-Fi connections to which you can connect with a Windows PC.

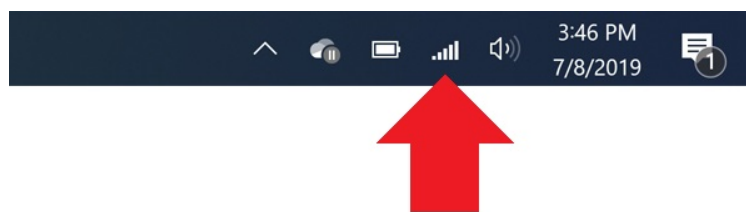
While cellular networks are more broadly available than Wi-Fi, they can also be expensive: Most people with cellular data plans pay for a particular amount of data each month, and they are charged extra if that amount is exceeded. For this reason, Windows treats cellular data networks differently from Wi-Fi or Ethernet networks. Most notably, it will not sync with OneDrive or download Windows Updates over such a network. Even critical security updates are deferred for as long as possible.

Windows also helps you keep track of your data usage on this type of network—which it calls a *metered network*—so it can proactively warn you if you're in danger of exceeding your monthly allotment.

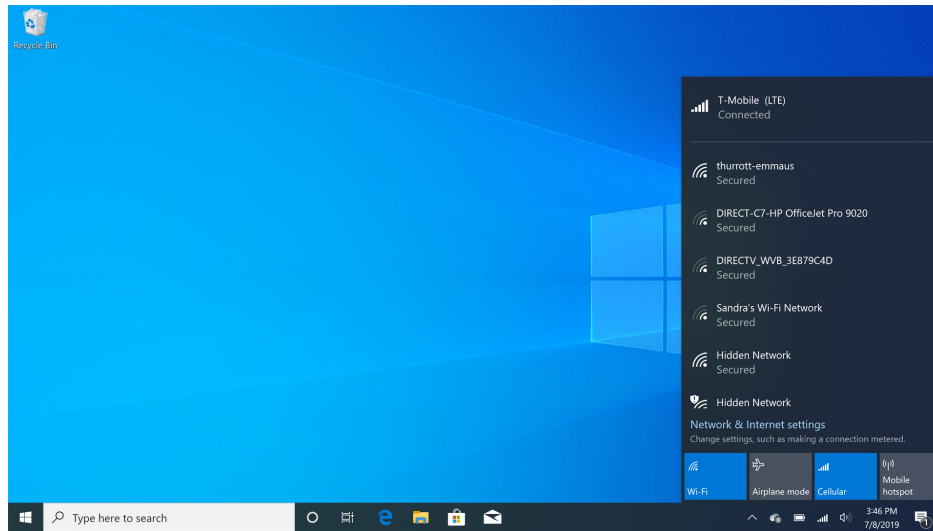
## Enable and disable a cellular connection

If you do have a cellular data connection, Windows will connect to it automatically, if possible. It will do this in addition to connecting to a known Wi-Fi network as well.

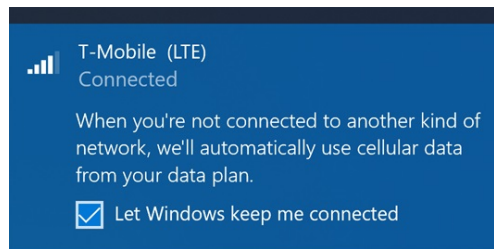
If you are only connected to a cellular data account, the network “connectoid” in the system notification area will resemble the triangular “five bars” cellular connection icon you see on your smartphone.



You will also see that connection at the top of the Internet access pane.



When you select this connection, it expands to display an additional additional option, “Let Windows keep me connected,” which is enabled by default. In this configuration, Windows will use Wi-Fi when possible, but will switch to cellular only when needed so that you can stay online.

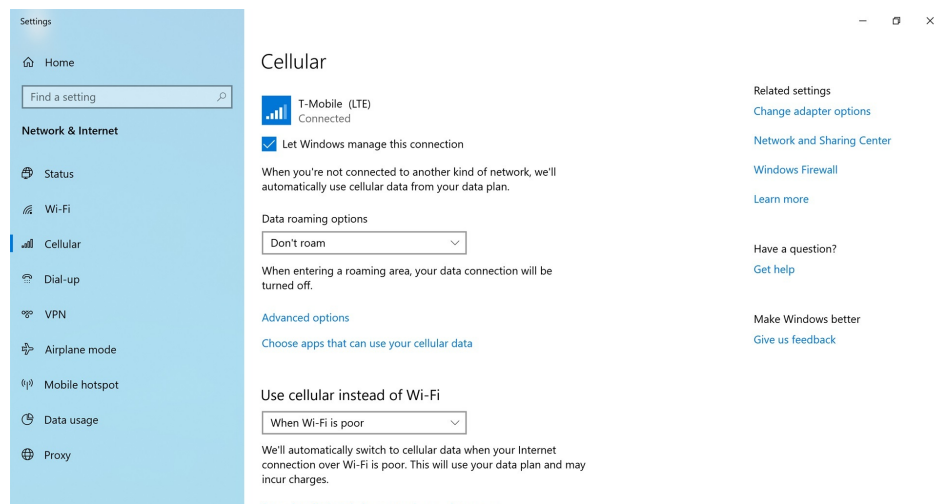


If you deselect “Let Windows keep me connected,” a Connect button will appear so that you can manually connect to the cellular data connection.

## Configure a cellular connection

Because cellular data connections are metered and can be expensive, we *strongly* recommend examining how yours is configured before you do anything else.

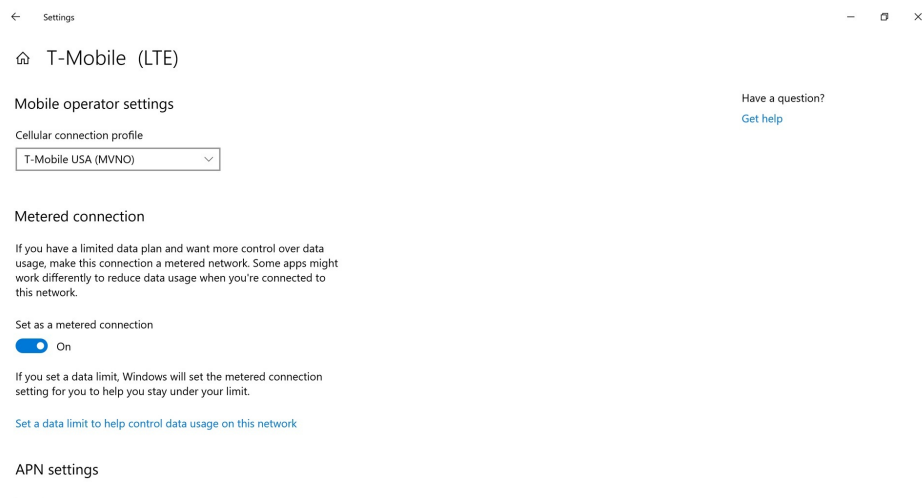
To do so, enable your cellular connection and navigate to Settings > Network & Internet > Cellular.



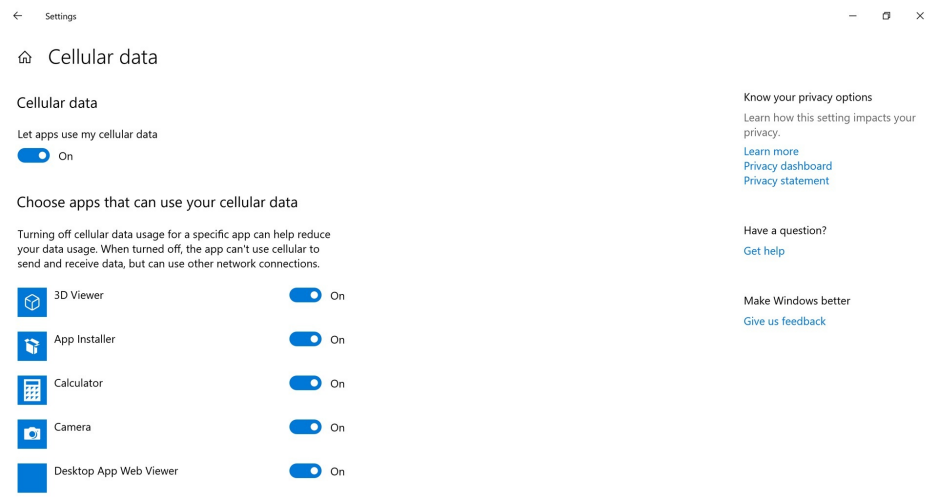
Here, you can configure whether to let Windows manage this connection, which we recommend, plus the following other options:

**Data roaming options.** This determines whether the PC can use *roaming* (out of network) data. Because roaming data can be much more expensive than in-coverage data, you'll want to check with your carrier to see whether you should change this option from its "Don't roam" default.

**Advanced options.** This link opens a new page displaying advanced options for the cellular data connection, including whether Windows should treat it as a metered connection (which it does, by default), and various APN (Access Point Name) settings, which may need to be configured manually. (Check with your carrier).



**Choose apps that can use your cellular data.** By default, most of your installed apps (save OneDrive) work normally when you're using your cellular data connection. But you can use the Cellular Data page that appears when you select this link to prevent individual apps from using the connection, which could save money.

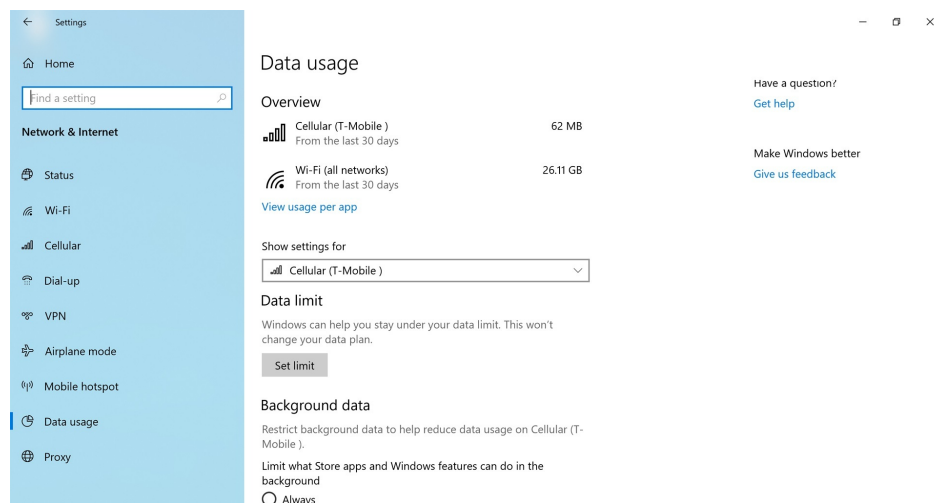


**Use cellular data instead of Wi-Fi.** By default, Windows will switch to cellular data if the current Wi-Fi connection is weak. But you can choose to always (or never) use cellular data if you'd prefer.

**Set a data limit to help you track your data usage.** This link opens the Data usage page, which is described below.

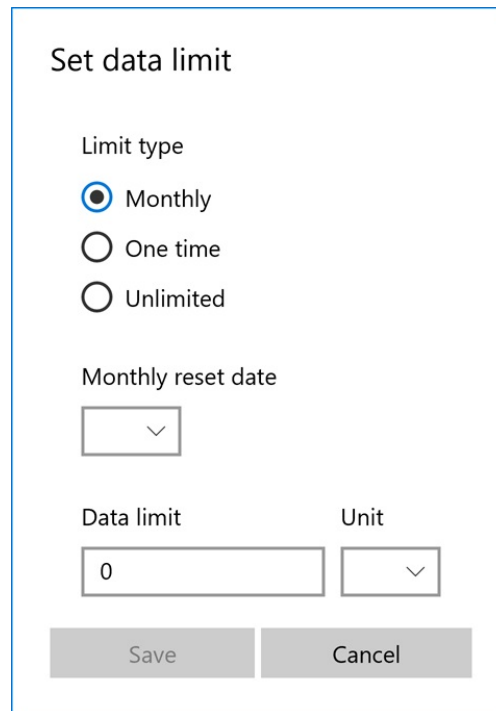
## Configure data usage

If you navigate to Settings > Network & Internet > Cellular > “Set a data limit to help you track your data usage,” you can use the Data usage page to configure how Windows handles data usage on a connection-by-connection basis.



This is particularly useful for a cellular data connection because it allows you to configure a data usage limit and whether Store apps and Windows background data usage should be limited during this usage.

To configure a data usage limit, make sure your cellular data connection is selected in “Show settings for.” Then, select the Set limit button. A Set data limit window appears.



Here, you can configure the limit type—monthly, one time, or unlimited—a limit reset time frame (which varies by limit type), and then the actual data limit in GB or MB. Select Save when you’re done configuring the data usage limit.



Windows will display notifications warning you when you are close to exceeding your data usage limit so you can respond accordingly and, hopefully, avoid unnecessary extra fees.

Under Background data, you can also configure whether Store apps and Windows can use cellular data in the background, and whether to do so while roaming.

## Share your Internet connection

A Windows feature called *mobile hotspot* lets you share your Internet connection with up to 8 other PCs and devices. The shared network is a standard Wi-Fi network, and thus can be used by any device that has a Wi-Fi connection, including your smartphone, a tablet, other PCs, and more.

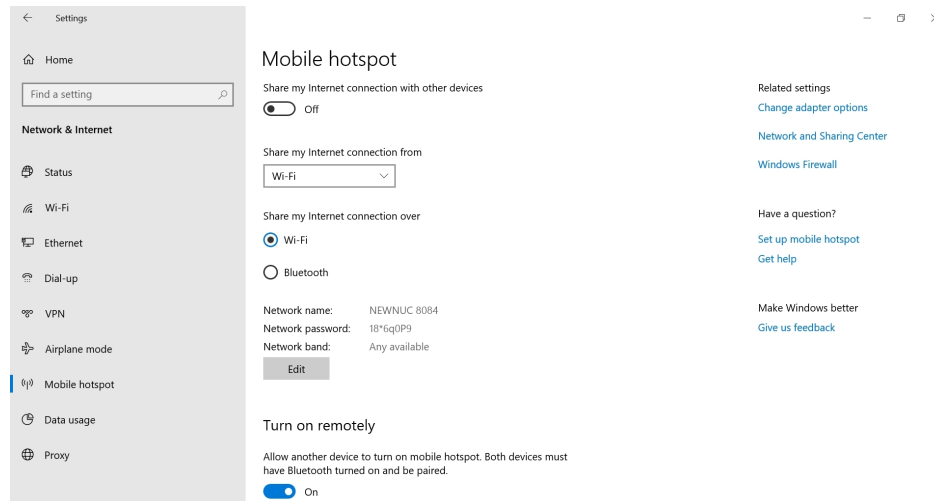


You need Wi-Fi capabilities to share your connection, but the connection you’re sharing can be an Ethernet (wired), Wi-Fi, or cellular connection.



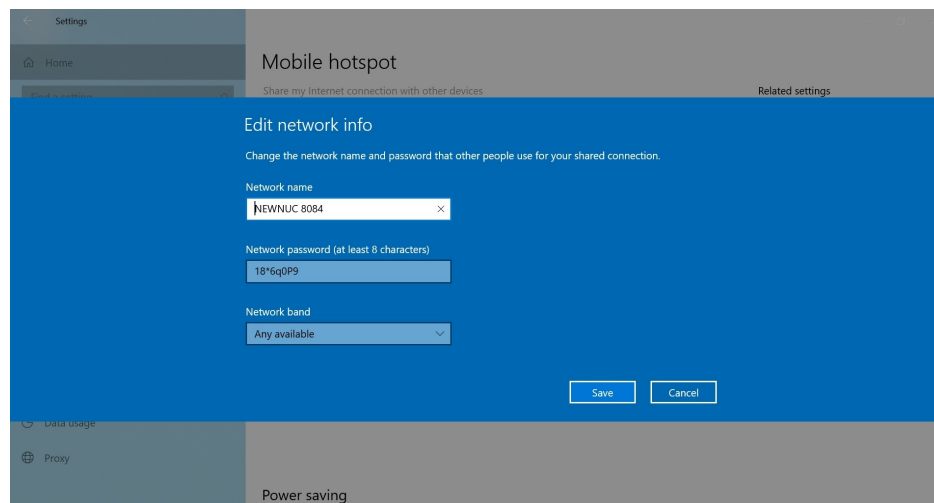
You may see an option to share your Internet connection over Bluetooth as well. Since this connection is not as fast and requires connected PCs and devices to be physically very close to your PC, you can safely ignore this option.

To share your Internet connection, navigate to Settings > Networking & Internet > Mobile hotspot.



Now, enable the “Share my Internet connection with other devices” option.

By default, Windows provides pretty terrible network name and password options. To edit these, select the Edit button and type in better, more easily remembered options. Depending on your Wi-Fi adapter, you may also be given the choice to choose a network band. “All available,” the default, is generally the best choice from a compatibility perspective.

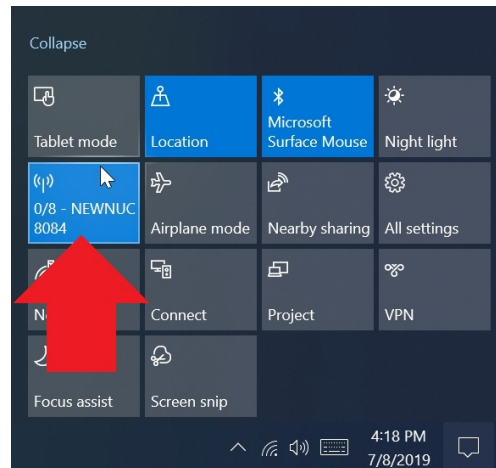


Your shared network will now appear alongside other nearby Wi-Fi networks when you check for a connection on your other devices. You can disable this feature when you’re done sharing. But it will also turn off automatically if no other PCs or devices are using it.





You can toggle your shared Internet connection quickly and easily with the Mobile hotspot tile in Action Center. To do so, launch Action Center (WINKEY + A) and locate the Mobile hotspot tile. (If it's not visible, select the small "Expand" link above the group of tiles at the bottom of the pane.) Just select this tile to enable and, in turn, disable the hotspot.

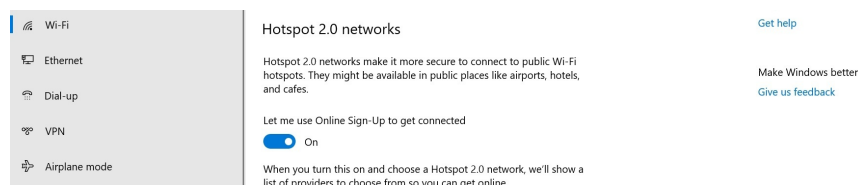


## Connect to known-safe public wireless connections automatically

Windows includes support for Hotspot 2.0 networks which can make Wi-Fi easier to use when you're out in the world.

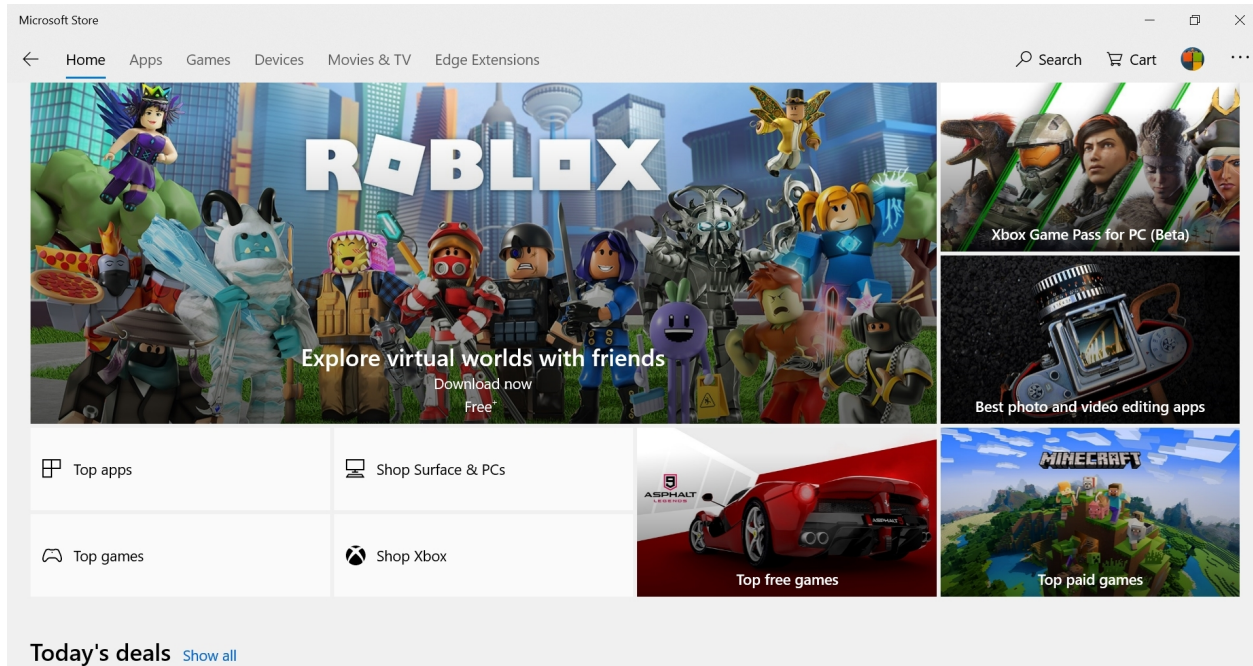
*Hotspot 2.0* is a standard for Wi-Fi roaming, and it is designed to help you authenticate with one private Wi-Fi network and then seamlessly move, or roam, to another private Wi-Fi network without having to reauthenticate. For individuals, this typically means Wi-Fi networks that are provided by your wireless carrier, and authenticated via your SIM card, though there are more complex business-related uses for this technology as well. These will utilize enterprise-class security products like smart cards, and will be managed by your workplace.

To configure this feature, open Settings and navigate to Wi-Fi and locate the Hotspot 2.0 networks heading.



When enabled, Windows will save your credentials when you sign-up for or first connect to supported networks and will then automatically connect you in the future.

# Microsoft Store and Apps



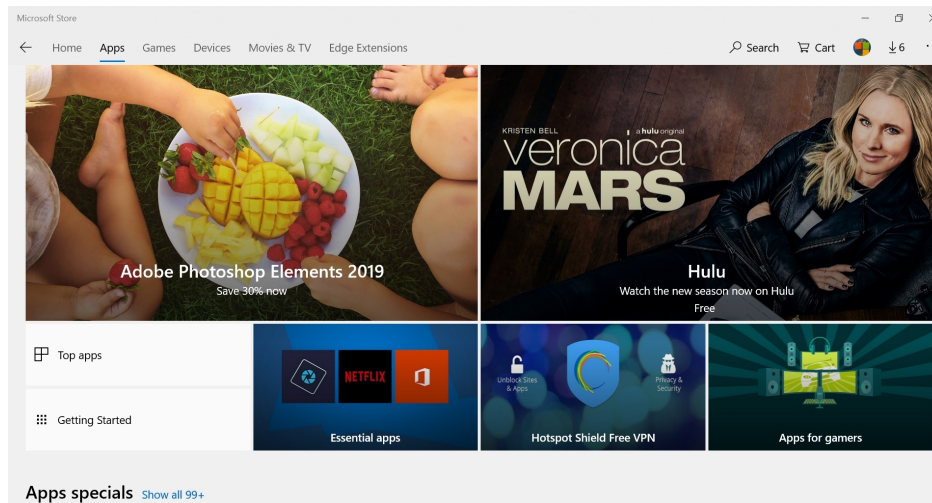
## Get to know the Microsoft Store

The Microsoft Store helps you can find, download, and buy apps, games, movies, TV shows, Microsoft Edge extensions, and even PCs and other hardware.

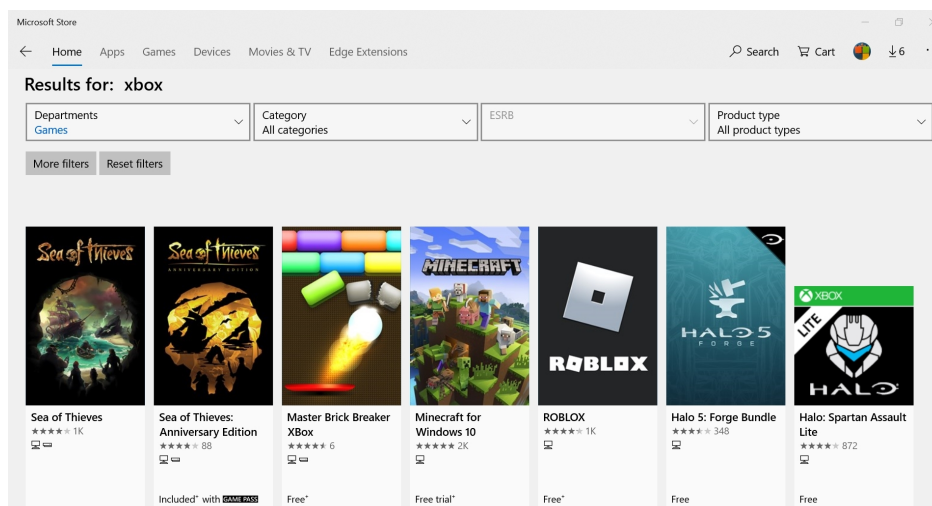


Throughout this book, we use *app* or *Store app* to describe any app or game you acquire from the Microsoft Store. These can include new universal apps that were designed for the Windows 10 apps platform, Windows 8 apps, Xbox Live games, legacy desktop applications that were packaged for inclusion in the Store, and more. For the most part, you don't need to worry about the differences between these apps and the desktop applications that you may be used to downloading for Windows from the web. That said, we will sometimes differentiate between apps and games when the differences are important.

Microsoft Store—which is often simply referred to as Store or the Store app—provides access to a lot of different types of content. As such, it's a busy and dense app, with links to each of the major content areas at the top.



As you navigate into each of those content areas, you'll see that they each visually resemble the Home view, with promoted content, editorial picks and so on. Navigation is straightforward, and the built-in search functionality lets you search across each of these content areas from a single place, and with various filtering capabilities.



In this chapter, we focus only on apps and games. The purchasing of movies and TV shows is discussed in the Movies & TV Shows chapter. And Edge extensions are discussed in the Microsoft Edge chapter. We don't really cover the Devices section per se, as it is just a front-end to the Devices section of [the Microsoft Store on the web](#).

## Before you start

Before you download any apps or games, there are a few things you should configure.

## Sign-in with your Microsoft account

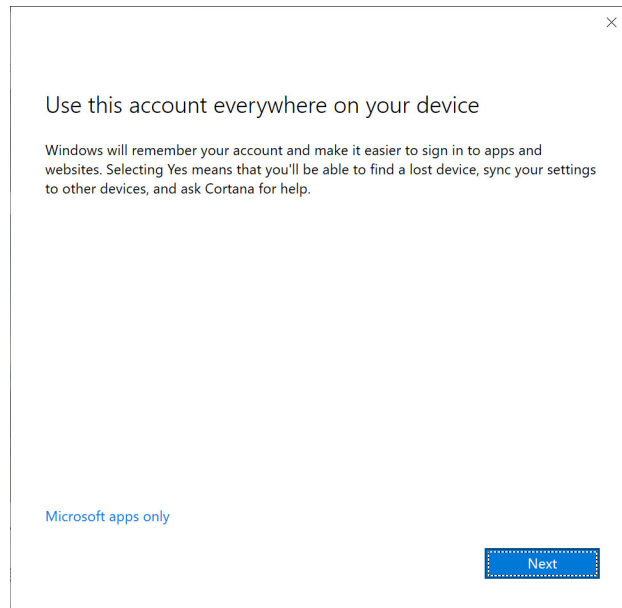
You must sign-in with your Microsoft account to purchase any paid content—apps, games, or videos—from the Store. If you use your Microsoft account to sign-in to Windows, you're all set: You are automatically signed in to the Store app as well. But if you're using a local user account, you will need to sign-in to the Store with a Microsoft account before you can proceed.



If you intend to keep using a local account to sign-in to Windows, you will need to be *very* careful when you sign-in to Store with your Microsoft account. Be sure to follow the steps below precisely.

To do so, launch Store, select the little account picture to the left of the search box, and then choose Sign in from the drop-down menu that appears. A window called Add your account to Microsoft Store appears.

After signing in to your Microsoft account—a process that will include entering your account name and password, and, possibly, completing a two-step verification prompt—you will be prompted to use this account everywhere.



**If you select the Next button here, Windows will switch your local user account to a Microsoft account.** So do not select Next if you wish to continue using your local user account.

If this isn't what you want, you can select the "Microsoft apps only" link. Then, in the future, when you use other Store apps that let you sign-in to your Microsoft account, you can optionally choose to do so using the account you just configured.



Contrary to the name of that link, choosing "Microsoft apps only" does *not* mean that Windows will automatically sign you in to that Microsoft account when you use other Store apps.

## Manage your account and payment options

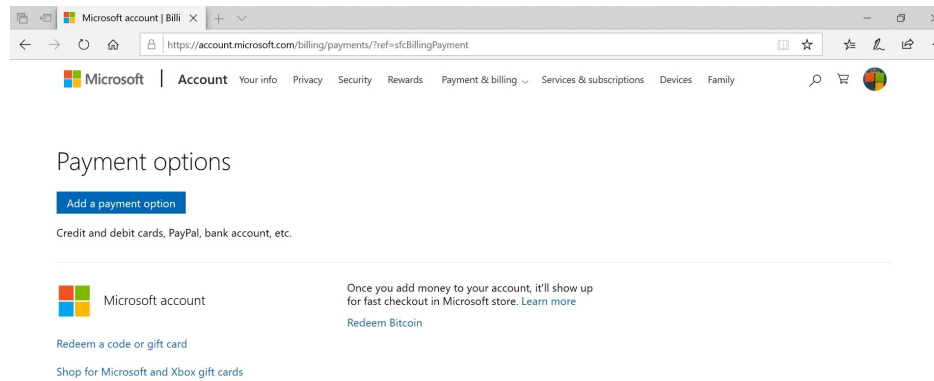
You should also spend a few moments to ensure that Store is set up correctly for your account and whatever payment method(s) you prefer to use for paid apps and other content. That way, you won't need to hunt around for credit card or other payment information the next time you want to buy something.

You configure this information from from Microsoft account web site at [account.microsoft.com](https://account.microsoft.com). Once signed in, navigate to Payments & billing > Payment options.



You can also find a link to this part of the site from within Store: Select the See more ("...") menu next to your account picture and then choose Payment options from the drop-down menu that appears.

From that web page, you can create, delete, and manage payment options tied to your Microsoft account. These include credit and debit cards, a Microsoft gift card account balance, and PayPal.

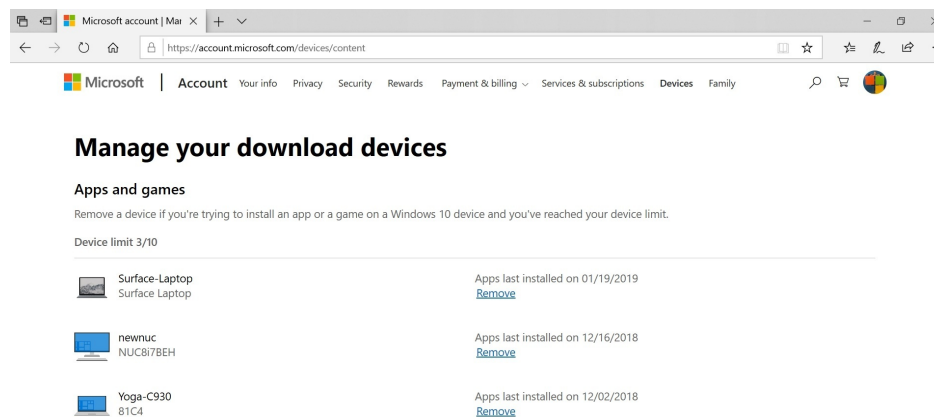


If you do get a Microsoft gift card, you can redeem the code it contains on the web at [account.microsoft.com/billing/redeem](https://account.microsoft.com/billing/redeem). This is also linked to from the Store app: See more (“...”) > Redeem a code.

## Manage your connected PCs and devices

Microsoft lets you download Store apps and games to 10 Windows PCs. And you can manage the list of those devices from the Microsoft Account web site as well.

You do so from the Microsoft account website by navigating to Devices > Manage device limits, or by navigating directly to the [Manage your download devices](#) page.



If you see any out-of-date PCs or devices in this list, you can remove them by selecting the appropriate “Remove” link.

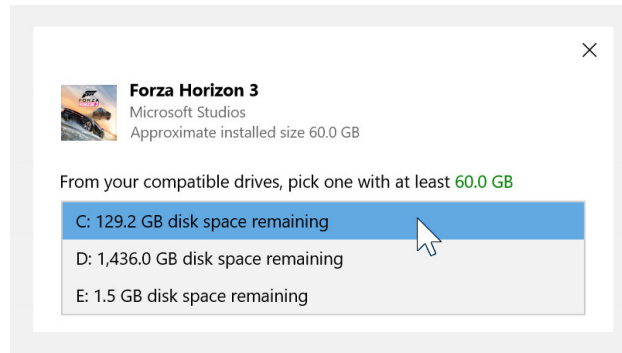
## Find and install apps and games

The Microsoft Store offers a variety of ways to find and then install apps and games. This process will be obvious to anyone who has used a mobile app store in the past decade. That said, there are a few unique items of interest related to acquiring apps and games from the Microsoft Store.



## Choose an install location

If your PC has multiple disk drives and you attempt to download and install a large app or game, Store will prompt you to choose an install location. This lets you select, on an app-by-app basis, which drive is used.

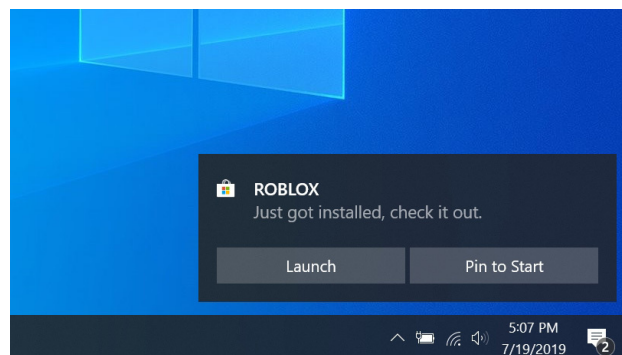


Windows lets you change the default location for app and game installs as well. This option is described later in this chapter.

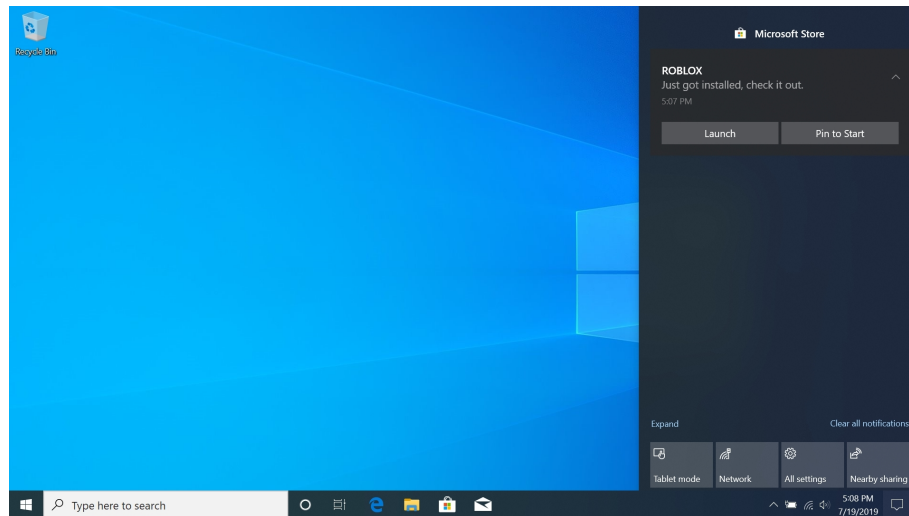
## Find an app or game after you've downloaded it

Windows goes out of its way to make sure you can find apps you've just installed.

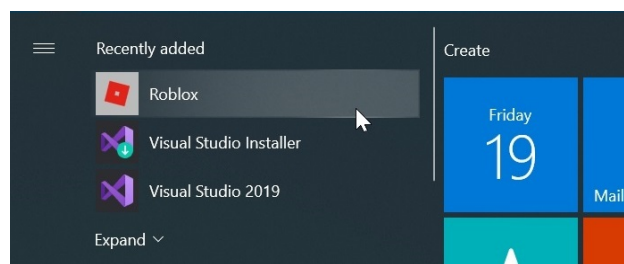
First, a pop-up notification banner will appear in the lower-right corner of the screen. If you respond to this notification quickly enough—it disappears after a few seconds—you can select it to launch the newly-installed app.



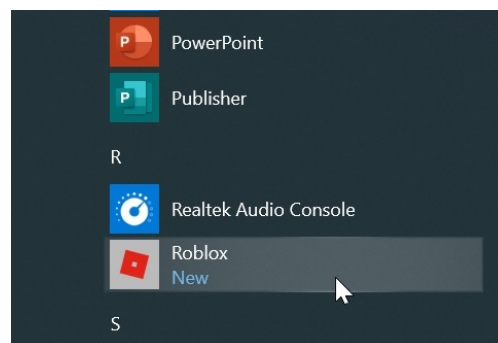
If you miss that notification, no worries: It is still available from the Action Center (which is described in a bit more detail later in this chapter). You can open Action Center by selecting its icon in the lower-right of the screen (to the right of the clock), or by typing WINKEY + A. You'll see the notification in the list, and if you select it here, the newly-installed app will launch.



You can also access recently-installed apps from the Recently added list in Start: Just select Start, and you'll see the new app at the top of the list.



Finally, newly-installed apps are also called out in Start's All apps list. If you scroll down this list and find an app you have installed but not yet run, you will see a "New" tag next to its name in the list.



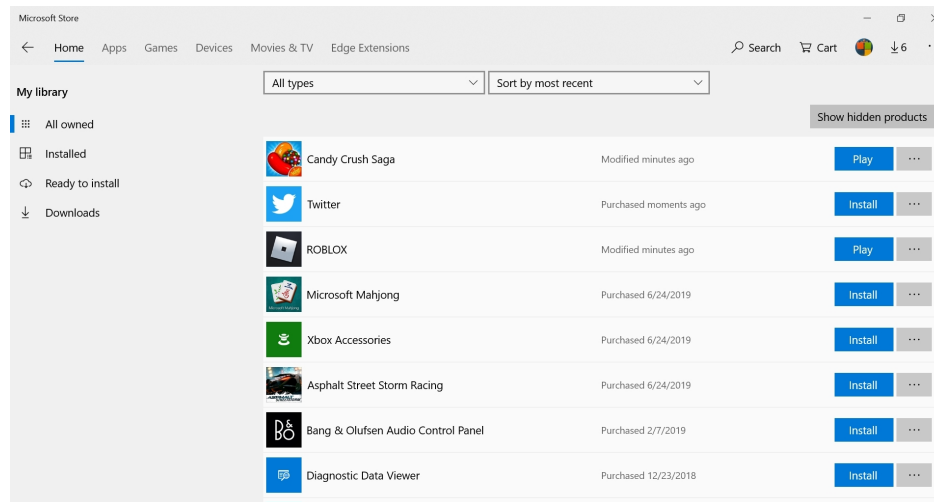
## Find apps and games you've already purchased or downloaded

The Store app helps you find the apps, games, and other content you've already purchased and downloaded across all of your PCs. This makes it relatively easy to find them and download and



install them again. This can be useful if you've received a new PC or have uninstalled an app and now wish to get it back.

To see this list, open the See more menu in Store and choose My Library. Here, you can see your most recent apps and games.



You can perform a number of useful actions here:

**Download and install an app.** To download and install a previous purchase or download, select the Download button next to that item.

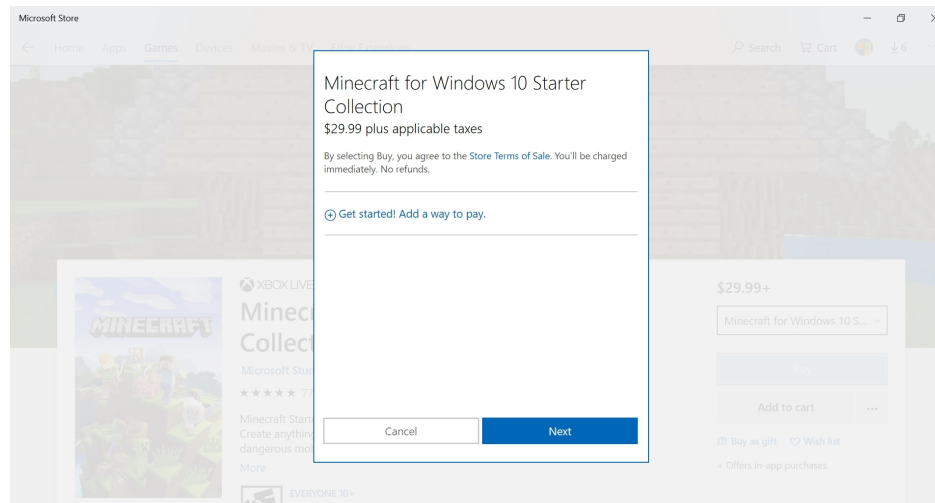
**Hide an app.** Embarrassed by a poor app or game choice? Just select the More Actions (“...”) button next to that item in the list and then choose Hide. Hiding an app doesn’t remove it from your account, of course, and you can always access it from the web (at [account.microsoft.com/billing/orders](https://account.microsoft.com/billing/orders)) or from your other PCs.

**Filter and sort the list.** By default, the My Library view displays all of your content. But you can filter the list only to show apps, games, or video content. You can likewise sort the list by most recent (the default) or by name.

**View other lists of your content.** The options on the left—All owned, Installed, Ready to install, and Downloads—let you view certain parts of your library more easily.

## Purchase an app or game

As you might imagine, purchasing a paid app or game requires a few more steps than downloading a free (or previously purchased) item. You will be prompted to sign-in—using your password or a Windows Hello-based authentication action—and then asked to confirm which payment method you prefer to use.



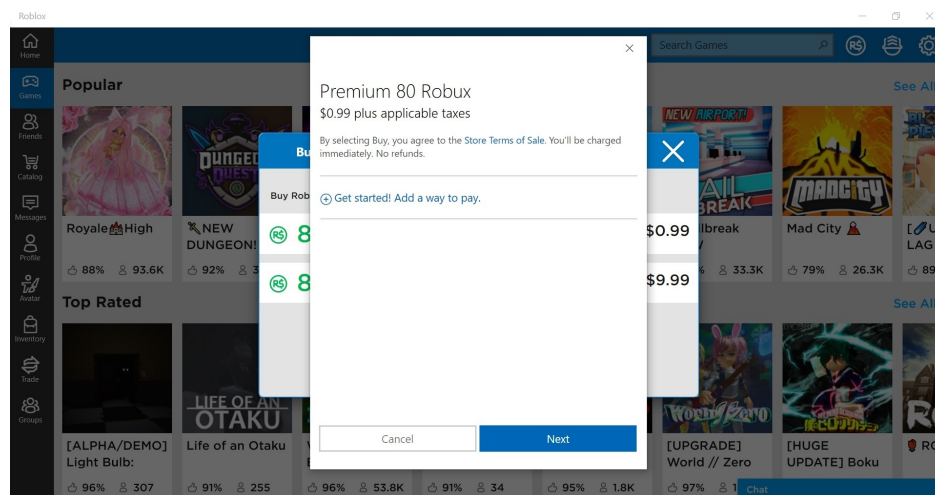
From there, the download process proceeds normally.



If you'd like to streamline the app purchase process by removing the password requirement, you can do so in Store settings. We do not recommend making this change: It's always a good idea to carefully consider any purchase, and this authentication prompt will provide the necessary pause.

## Make an in-app purchase

Some free apps—especially games—offer in-app purchases, which is one way for developers to monetize their work without requiring an upfront, one-time payment. (Another approach is to provide in-app advertising.) The types of in-app purchases you'll see will vary from app to app, but the purchase process is the same. Like any Store purchase, you will need to sign-in and choose a payment method.



## Update apps

By default, the Microsoft Store will automatically keep every Store app on your PC up to date, downloading and installing updates in the background as they appear. We think this behavior is desirable and beneficial for most users. And we don't recommend changing it.

However, some may wish to monitor app updates and manually install these updates when they become available. To do so, open Store settings (See more > Settings). At the top of this display you will see an option, "Update apps automatically." If you wish to disable automatic app updates for some reason, change this to Off.



If you make this change, Store will now alert you to new app updates via a number on the Store live tile and a small textual notification in the upper right corner of the Store app.

You can also manually check for app updates: Open the Downloads and updates view (See more > Downloads and updates) and then select the Check for updates button.

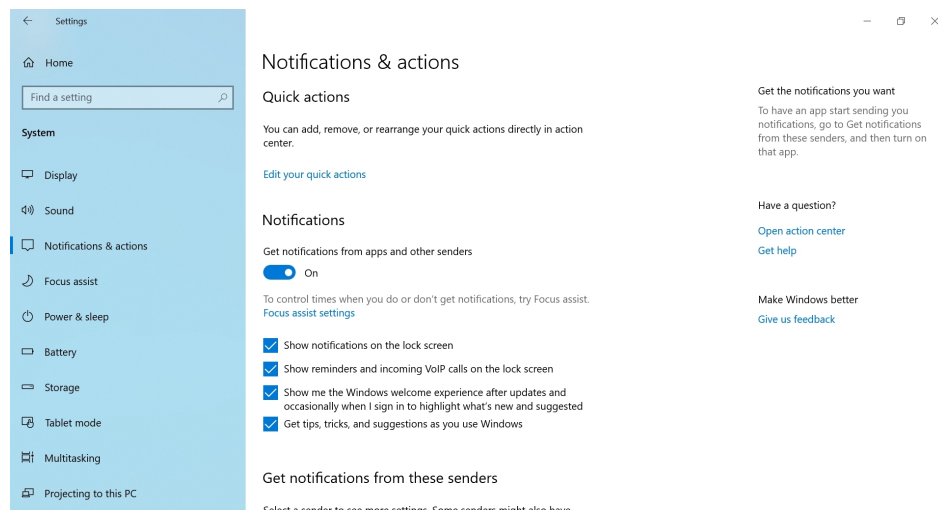
## Manage app notifications

Like mobile apps on Android and iOS, Store apps don't need to be running to keep you up-to-date: They can display pop-up notification banners to alert you when something happens.

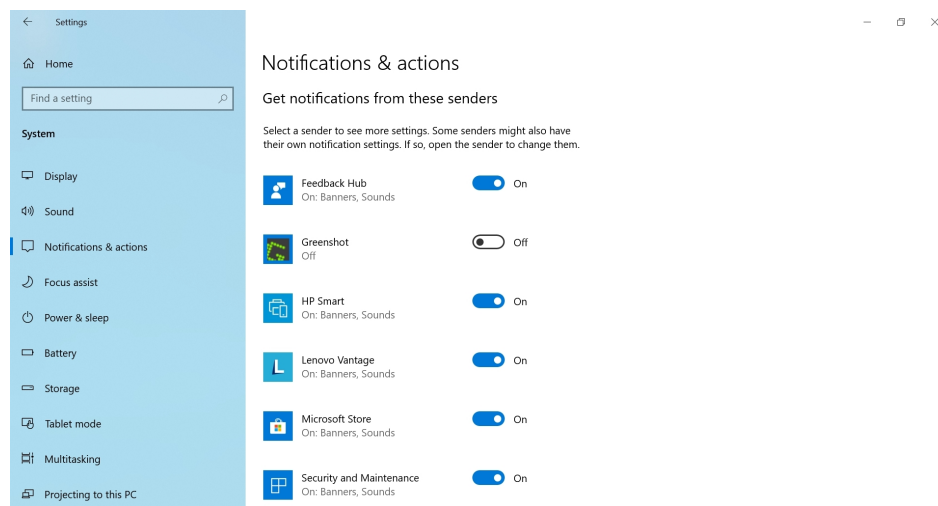
For example, the Mail app can notify you when new email messages arrive. And the News app can be configured to display notifications when important news breaks. But these banners aren't the only place you can see app notifications: They will also display in Action Center, on your lock screen, and/or via the app's live tile in Start.

## Configure how app notifications work

That's a lot of notifications, so you may wish to spend some time configuring how notifications work. You do so by navigating to Settings > System > Notifications & actions.



There are a lot of options here. Most are obvious enough—you can globally enable or disable pop-up notification banners and whether those banners appear over the lock screen, for example—but the list of applications at the bottom is of particular interest. From here, you can configure how individual apps handle notifications.



To disable all notifications for an individual app, just select the appropriate On/Off slider. Or, you can configure notifications in a more detailed way: When you select an app, you will see a list of notification options just for that app.



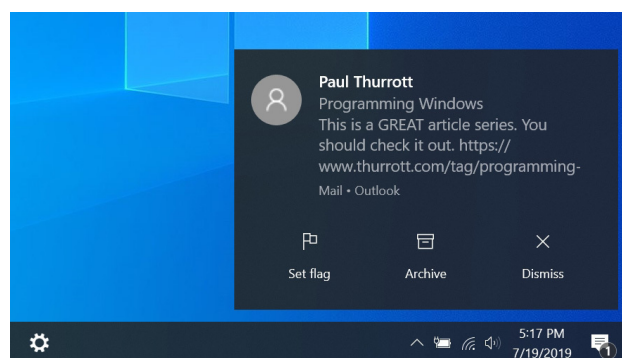
This page gives you much more control over app notifications: You can determine how and where they appear, whether a sound plays during a notification, and even an app's priority level in Action Center.



You might proactively scan the list of apps that can display notifications and configure them in one go. But it's more likely that you will handle this the way most do with their phones: You will determine that some app notifications are unnecessary when they start interrupting you, and then disable those notifications at that time.

## Handle an app notification as it appears

Notification banners appear as little windows in the lower-right corner of the screen. They will appear regardless of what you're doing in Windows—they appear over the desktop, over apps, and over the lock screen by default—though they will be disabled during full-screen games.



Notification banners vary by app. Some are interactive and provide options right on the window for dealing with the notification. In the image above, for example, you can see that Mail app notifications

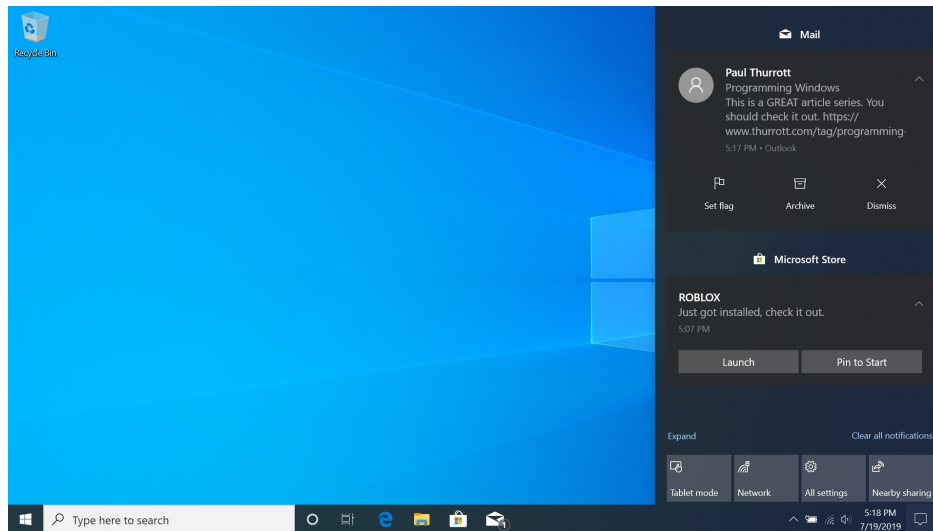
let you flag, archive, or delete a new email message right from the banner, without any need to launch the app.

As noted, if you select a notification banner before it disappears—they only stay visible for a few seconds—the underlying app that triggered that notification will open. But if you ignore or miss a notification banner, you can later view it and other notifications in the Action Center, as described below.

## Handle previous app notifications

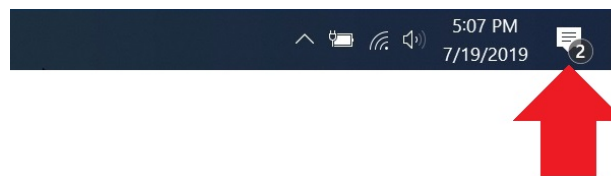
Action Center is the Windows interface for managing unseen notifications. This interface also lets you quickly access other system functions like network settings, Airplane mode, and the like.

Action Center is hidden by default, but you can display it by selecting the Action Center button in the far right of system tray.



On a touch-based system, you can open Action Center by swiping in from the right edge of the screen. And fans of keyboard shortcuts can type WINKEY + A.

You don't need to actively check Action Center for new notifications. It will subtly alert you when there are missed notifications via a number in a bubble overlay on top of the Action Center button. This number indicates how many new notifications await.



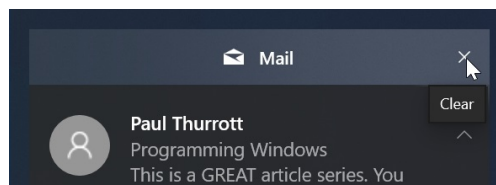
Action Center appears as a pane on the right side of the screen. It provides access to notifications, segregated by app, as well as an expandable group of quick action tiles.

To access an app that triggered a notification, select the notification in the Action Center list. For example, if you select a newly-installed app as seen above, that app will launch.



When you access a notification this way, it is cleared from Action Center.

You can interact with many notifications directly from Action Center, just as you can with notification banners.



You can also remove individual notifications—or an entire app’s worth of notifications—by selecting the appropriate Clear (“x”) button in the list, as seen above. (These buttons are hidden normally, but appear as you mouse over them.)

## See what’s new from the lock screen

Apps can optionally provide notifications over the lock screen so you can see what’s new when the PC is locked. But there are multiple places to look at if you wish to configure how notifications work on the lock screen.

### Enable or disable lock screen notifications globally

In the section *Manage app notifications*, above, we described how you can manage how each Store app on your PC handles notifications. Among those options is one related to the lock screen. To see this, navigate to Settings > System > Notifications & actions. There, you will see an option titled Show notifications on the lock screen.

When enabled—as it is the default—notification banners will obviously appear over the lock screen. So if you’re not interested in lock screen notifications, this is where you turn that off.

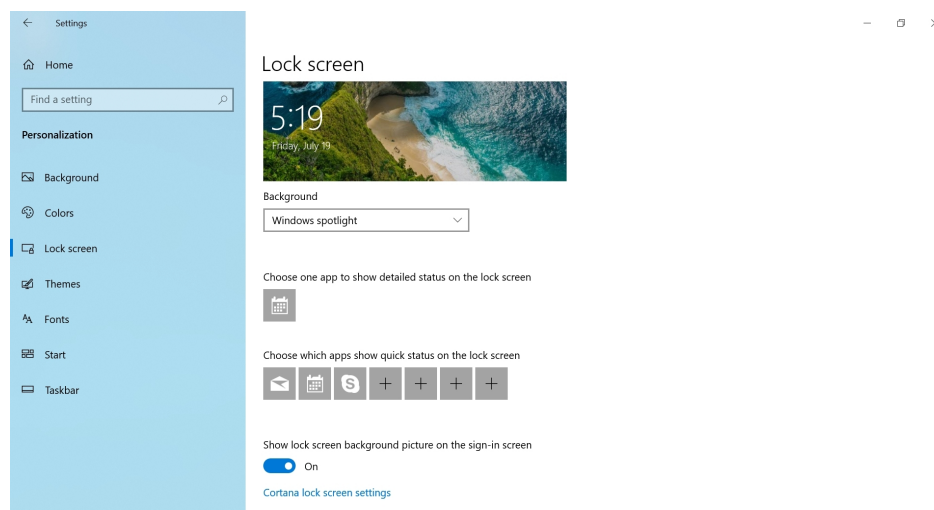
### Determine whether individual app notifications appear over the lock screen

You can also determine whether apps can display notification banners over the lock screen on an app-by-app basis. That is, you might leave lock screen notifications enabled globally, but disable those notifications for some individual apps.

To do so, navigate to Settings > System > Notifications & actions. Then, select an app from the list under Get notifications from these senders. On the page that appears, you can enable or disable the option “Keep notifications private on the lock screen.” (To disable lock screen notifications for this app, enable this option.)

## Personalize how notifications work on the lock screen

As discussed in the Personalize chapter, the lock screen also provides another form of notifications, called *status updates*. These are configured in Settings > Personalization > Lock screen. If you scroll down a bit, you’ll see a section called Choose which apps show quick status on the lock screen. Here, you can configure app icons for detailed status and quick status updates.



Windows lets you to have just a single app configured to display a detailed status, which isn’t really all that detailed; it’s usually just a short line of text. But lock screen status updates are pretty limited, too. You can configure up to seven apps that can display quick status notifications, and these are even less useful, and generally just provide an app icon with a number indicating how many notifications you’ve missed.



You can also choose an app that can show alarms on the lock screen

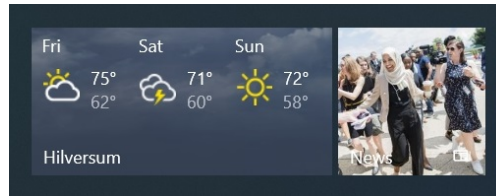
Worse, none of these lock screen notifications are actionable. That is, you cannot tap one, sign-in and go right to that app. Instead, you will need to manually find and launch any app that provided a notification.

## See notifications in Start

Windows provides some number of live tiles on your PC’s Start menu, and you can add and remove tiles, and further customize their behavior as you see fit. By design, these tiles are more dynamic than the icons of the past, and many are configured to display live, at-a-glance information.



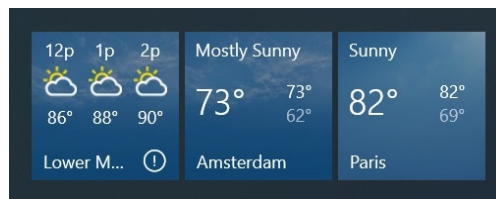
Live tiles help apps communicate what's going on without forcing you to manually open each of them in turn. For example, the Weather app's tile will display the forecast on its Start tile. And the News app will display recent headlines.



Be sure to check out the Personalize chapter to learn about the various ways in which you can customize each tile.

In addition to this behavior, some apps let you pin secondary tiles to Start as well. You do this from within the app, and how you do so varies from app to app.

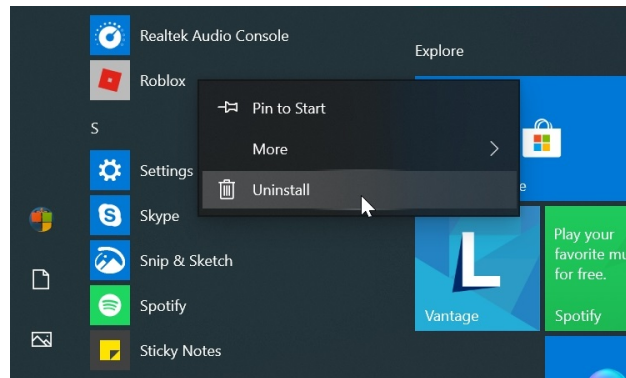
The Mail app, for example, lets you pin individual email folders to Start. And Weather, shown here, lets you pin a favorite location to Start. In this way, you can see multiple forecasts at the same time.



## Uninstall an app

Windows lets you uninstall apps—and desktop applications—in a variety of ways. But the easiest way is to start the process from Start.

To do so, just find the app you wish to remove anywhere in Start—the All Apps list, the tiles area, whatever—right-click (or, with touch, tap and hold) and choose Uninstall (or More > Uninstall) from the pop-up menu that appears.



If you are uninstalling a Store app, you'll be asked to confirm this decision.

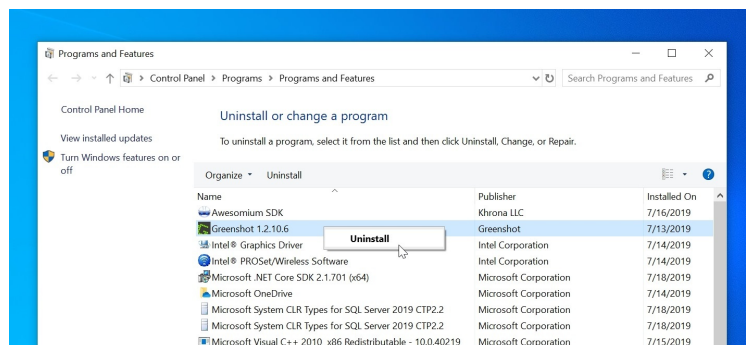


Store apps are self-contained and don't require special files to be installed in different locations all over your PC's file system like some legacy desktop applications. As such, they are very easy to uninstall. And doing so doesn't leave an unsightly (technical) mess behind, as can be the case with many legacy desktop applications.



Don't see an "Uninstall" option in the pop-up menu? Some of the Store apps that come bundled with Windows cannot be uninstalled normally. But there are some workarounds to this issue, including using a third-party application. One such solution is a free utility called [CCleaner Free](#). Just navigate to Tools and then select the app(s) you wish to remove from the list. Then, click Uninstall.

If you are uninstalling a desktop application, the process is slightly different. The Programs and Features control panel will appear so you can then uninstall the application from there.



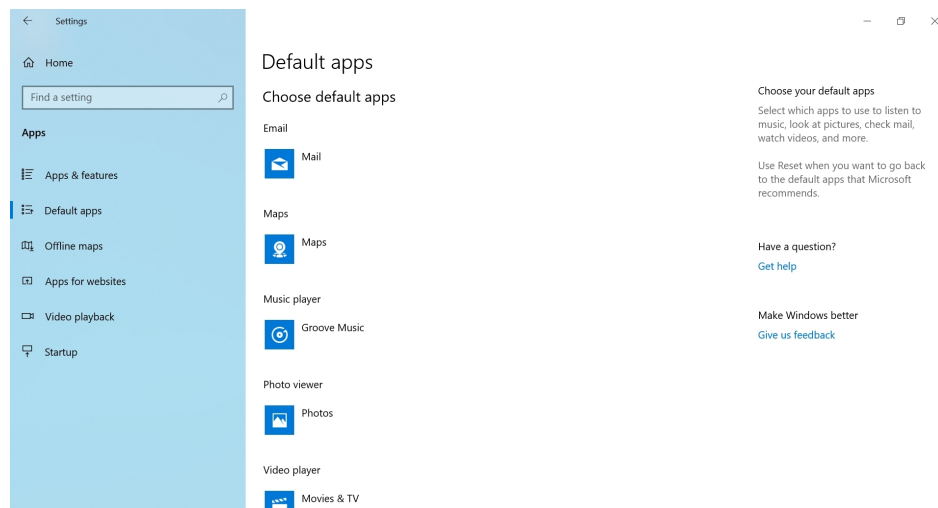
What you see next will vary somewhat according to the application, and some desktop applications also provide other options, such as the ability to add or remove features or fix a problem. Some will also require you to reboot the PC to complete the uninstall process.



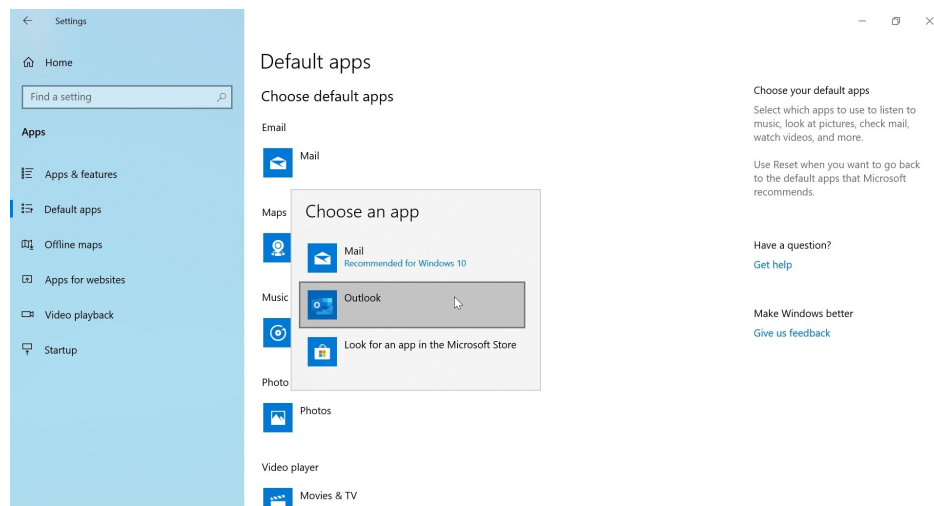
You can also uninstall an app from Settings. Navigate to Settings > Apps > Apps and features. Then, select the app you wish to uninstall from the list. As you do, it will expand to reveal Move and Uninstall buttons. Select Uninstall. If you choose to uninstall a desktop application from Settings, its uninstaller will run directly without any need to invoke Programs and Features.

## Configure default apps

Windows provides a Default apps interface in Settings so that you can determine which apps respond to specific actions, such as opening common file types. To see this, navigate to Settings > Apps > Default apps.

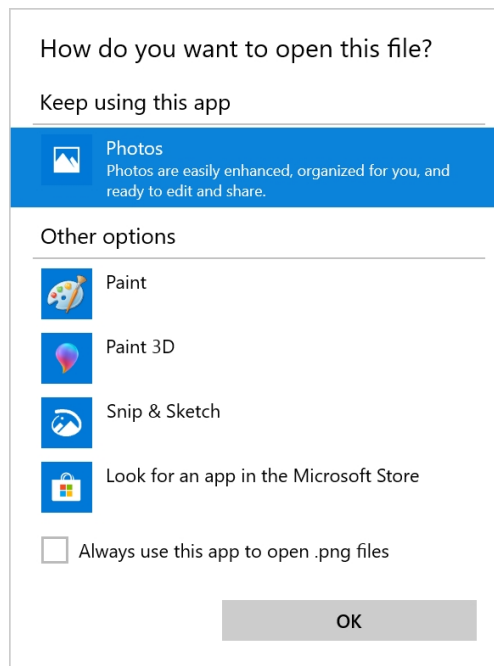


To change the default app for a particular action—Email, Maps, Music player, and so on—simply select the app that is currently configured. A pop-up will appear, providing you with a list of the available options.



In previous Windows versions, Microsoft offered a Set Default Programs control panel that offered a more complete way to change default apps. Today, this interface has been replaced by “Set defaults by app,” which is available via a link on this Settings page.

You will also be given the option to choose a default app the first time you open certain file types for the first time. You can use the pop-up that appears to choose an app for just this one time. Or you can also select the “Always use this app” link to make it permanent.

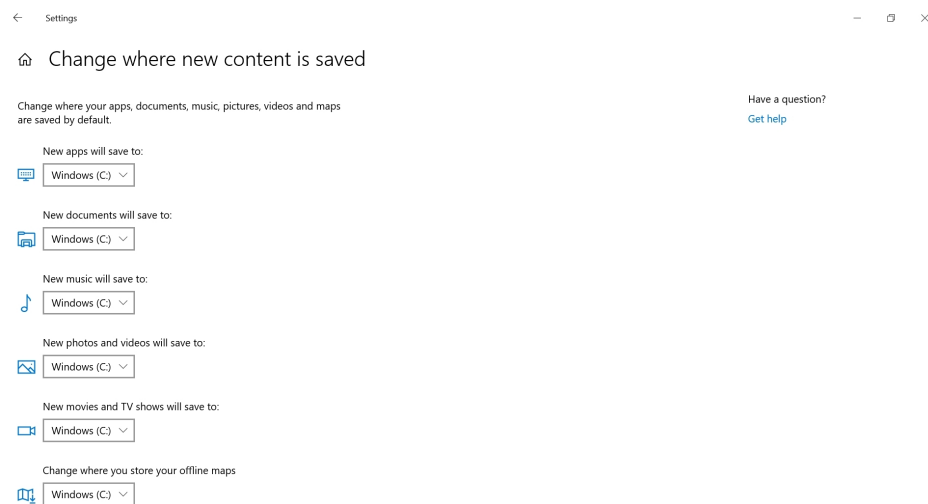


## Configure where apps are located

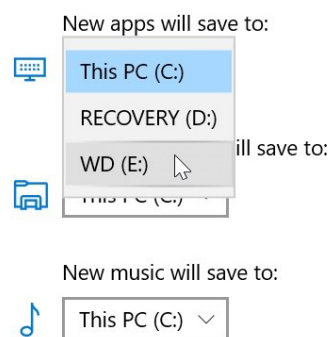
By default, apps are installed on your C: drive. But if your PC has multiple drives or partitions, you can change the default location and, in many cases, move Store apps to a new location.

### Determine where new app installs are located

To determine where apps are installed by default, navigate to Settings > System > Storage. Then, select the link “Change where new content is saved” under More storage settings.



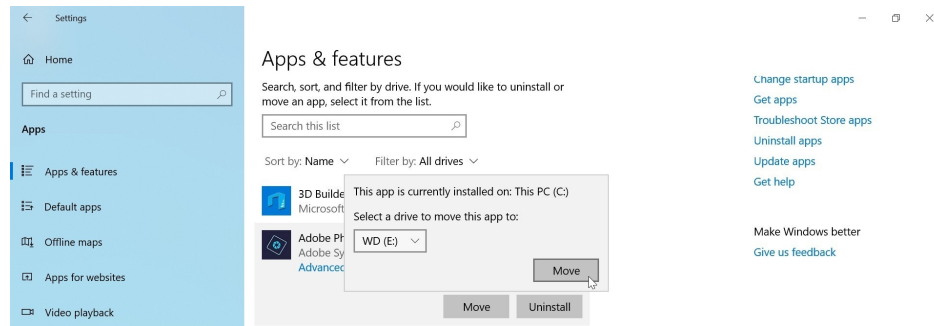
To change new app installs to another drive, select the drop-down under “New apps will save to:” and change the location.



### Move an app to a new location

You can move most Store apps to a different drive. This is helpful if you are running out of space on a drive, or have installed a new drive for this purpose.

To do so, navigate to Settings > Apps > Apps & features. Then, select the app you wish to move. When you do, it expands to reveal Move and Uninstall buttons. Select Move and then, when prompted, the drive to which you'd like to move the app.

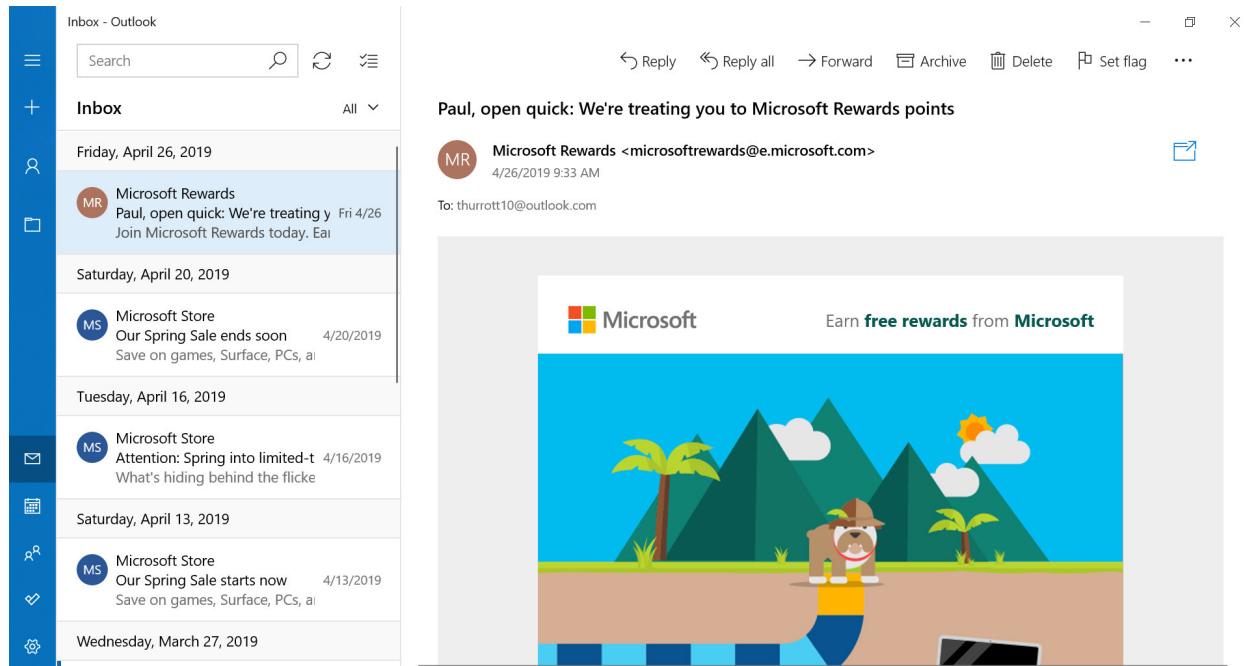


You can change the list of apps displayed here so that it sorts by size. To do so, select the “Sort by” item at the top of the list.



Some Store apps, including many that come with Windows, cannot be moved. In that case, the Move button will be grayed out.

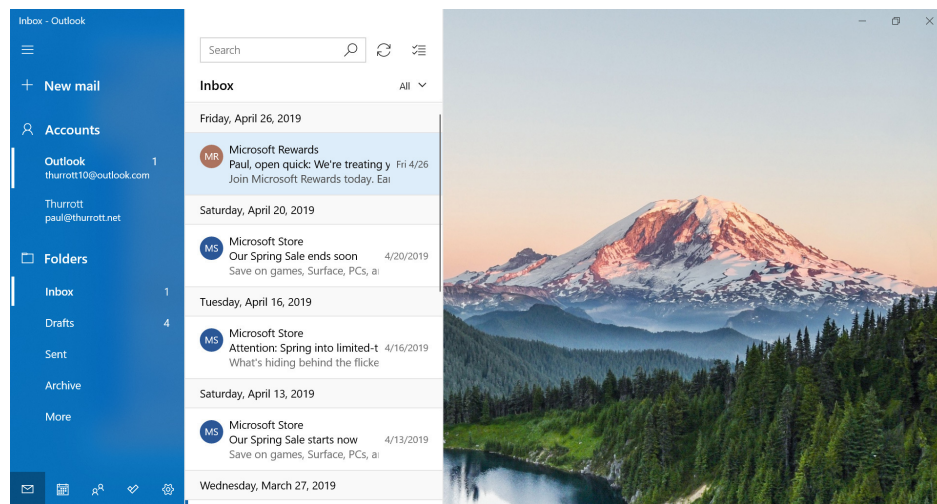
# Mail



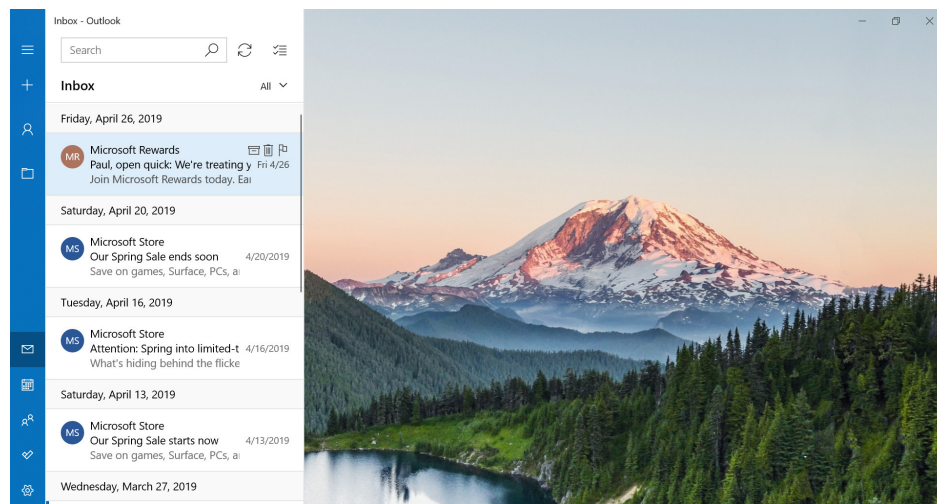
## Get to know the Mail app

The Mail app can connect to multiple online accounts and help you manage both your work and personal email.

Mail provides a straightforward user experience that resembles Microsoft's web-based email solutions like Outlook.com. And like those offerings, it provides three columns, or panes—Navigation, Messages, and Reading—which are arranged from left to right.



As with many of the other apps that are included with Windows, Mail's Navigation pane is collapsible. Just select the Collapse control, sometimes called the “hamburger,” in the top left. When you do, the pane shrinks and displays only icons. But you can continue to access the current account's folders using the All folders icon (which resembles a folder).



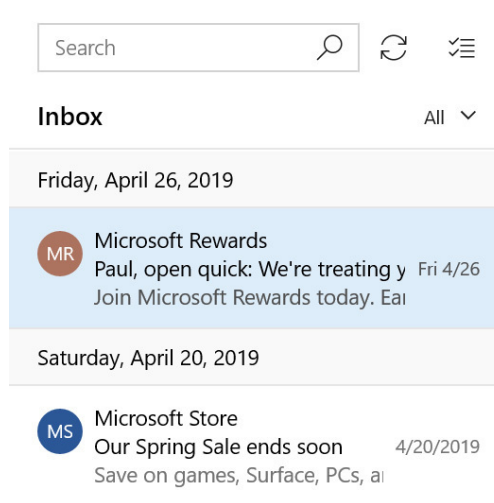
Regardless of whether it is collapsed or expanded, the Navigation pane provides a New mail button (+), your configured email accounts and the folders they contain, links to the related apps—Calendar, People, and To-Do—and app settings.



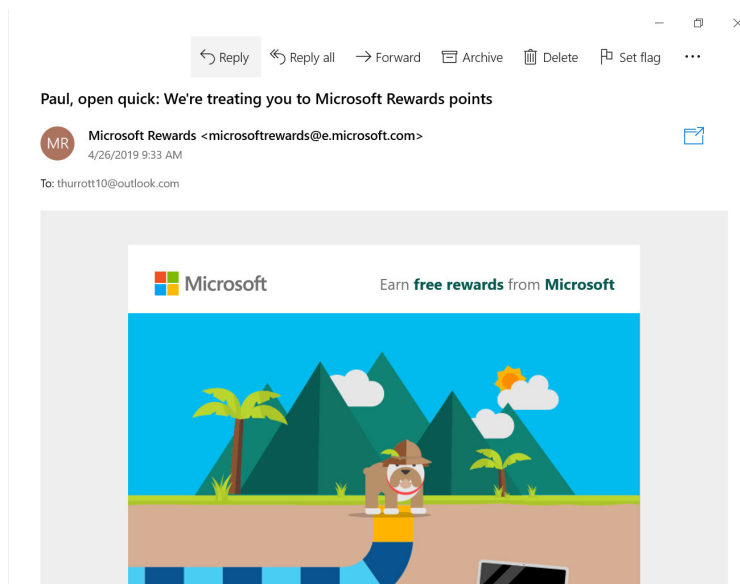
Microsoft To-Do is not included with Windows, so the first time you select the Switch to To-Do item in the Mail app's Navigation pane, the Microsoft Store app will open so you can install it.

The Messages pane provides a search box and displays the contents of the currently selected folder, typically the Inbox folder, for the selected account.

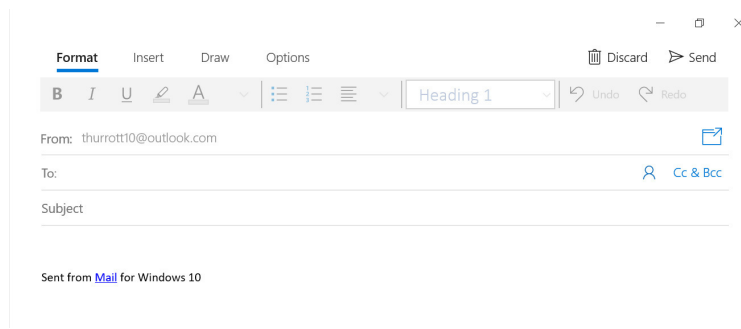




The Reading pane will display the currently selected message. But if no message is selected, it will display the app's background image instead.



When you create a new email message, the New Message view appears, replacing the Reading pane.



## Manage your accounts

Mail lets you use multiple email accounts all from a single place. Before using this app, you should add and configure each account you wish to use.

### Add and configure an account

If you sign-in to Windows with your Microsoft account—which we recommend—Mail will have already configured that account to work with the app. But it will also prompt you to add an account when the app is first launched.

You can do so now, or at any time later. But we recommend adding and configuring additional accounts via the system Settings app instead: As it turns out, the Mail, Calendar, and People apps that come with Windows are all configured to use the same online accounts, which Microsoft calls *email accounts*. And these are most easily created and managed in Settings. To do so, navigate to Settings (WINKEY + I) > Accounts > Email & accounts.

We describe email account creation and management further in the *Configure email accounts* section of the Accounts chapter.

## Manage how accounts and folders work in Mail

If you're using Mail with just a single account, things are simple: Mail will act as the front-end for that one account, letting you access your inbox and other email folders, much as you'd expect.

But things get more interesting when you use Mail to manage two or more accounts. In this case, each account is accessed separately in the Navigation pane by default. But you can optionally use a single *linked inbox* view that consolidates two or more accounts into a single view. So you have a choice to make.

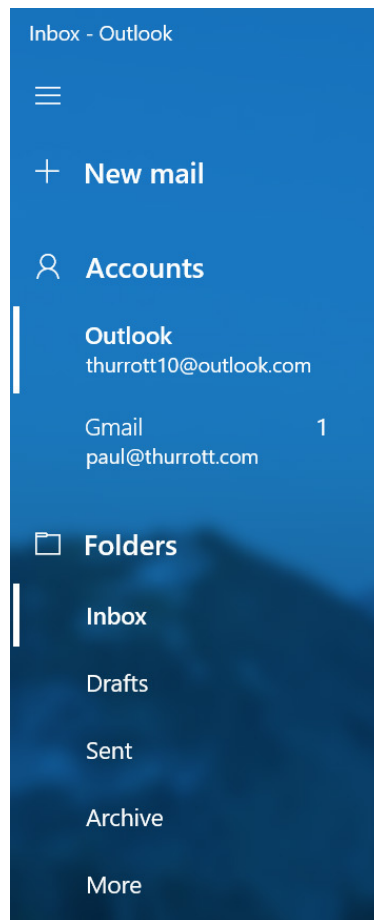
### Manage multiple accounts separately

By default, Mail presents multiple accounts separately in the Navigation pane. To switch between them, simply select the account name under Accounts (or, with the Navigation pane collapsed,

choose All account and then the account). As you do, the favorite folders list—under Folders—will change to match the actual folders found in the selected account. (With the Navigation pane collapsed, you will see the full folders list.)



Favorite folders are described below.



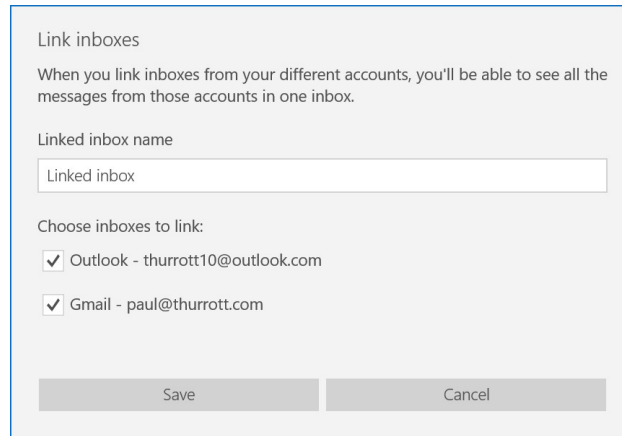
## Manage multiple accounts together using linked inboxes

Mail offers a linked inbox feature for those who prefer to manage two or more accounts using a single view. When you link inboxes this way, your email isn't really "mixed" together up in the cloud. You just view your email with a single inbox view in the Mail app. This can be more convenient than switching between accounts in the Navigation pane.



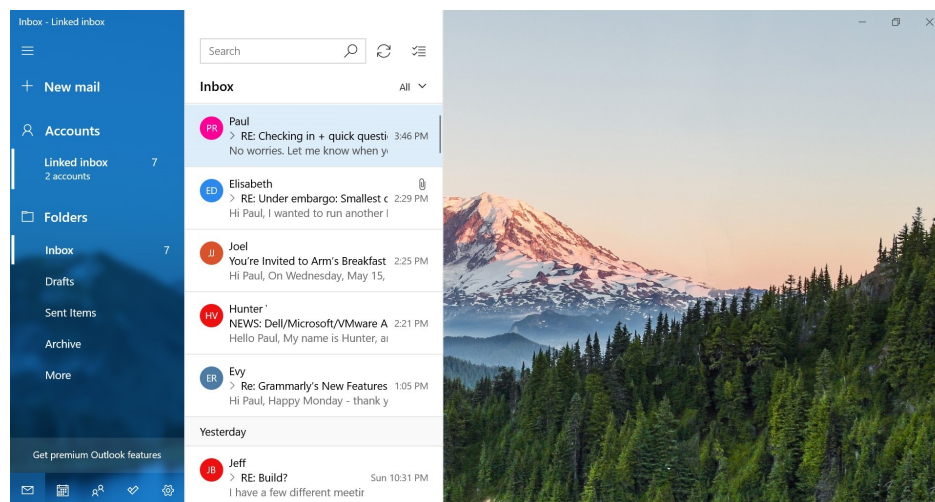
You can arbitrarily link inboxes from any email accounts. For example, if you have three accounts configured in Mail, you might link all three, or you might link two and leave one separate. It's your choice.

To link inboxes, navigate to Mail settings > Manage accounts and then select *Link inboxes*. The Link inboxes window appears, letting you choose which inboxes to link and, optionally, choose a name for the linked inbox.



If you're using a Mail feature called Focused inbox, you may see a warning that linked inbox is not compatible with that feature.

When you make your selections, the linked inbox will replace whichever accounts you selected in the Navigation pane, and the Folders list will present a consolidated view of the contained account folders.



You can see all of the folders by selecting *More* (under *Folders*). Or, if the Navigation pane is collapsed, you can select *All folders*.

Mail is smart enough to associate the messages with the right accounts. So if you delete or move an email message, the changes occur in the correct place.

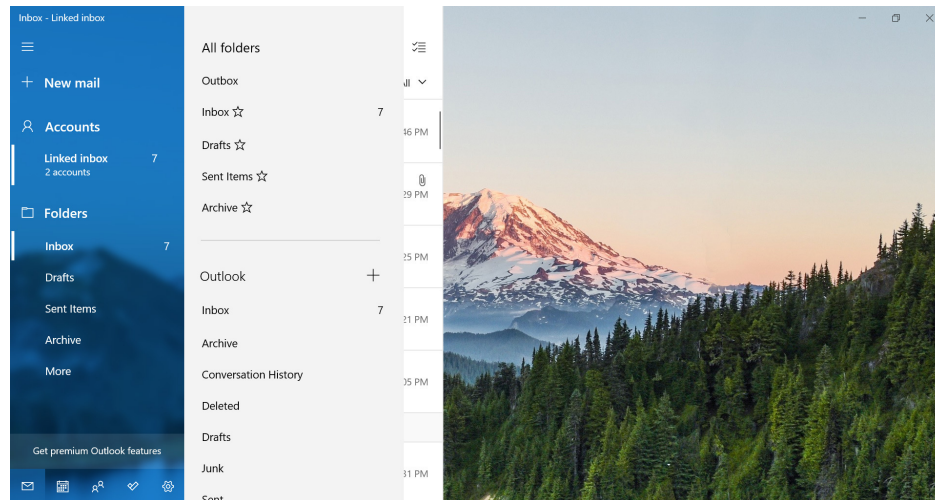


If you wish to later remove accounts from a linked inbox, navigate to Mail settings > Manage accounts and then select the linked inbox. In the window that appears, you can uncheck the accounts to remove. Or, select *Unlink inboxes* to manage each account separately.

## Determine which folders appear under an account

Mail displays frequently-used folders called *favorite folders* for each configured account in the Navigation pane. You will typically see folders such as Inbox, Archive, Drafts, and Sent (or similar) by default. But if you organize email in a unique way with your own custom folder structure, you can configure your own favorite folders. You can also remove favorite folders you don't use very often.

To do so, select the account or linked inbox you wish to modify in the Navigation pane and then select the *More* link. (If the Navigation pane is collapsed, select the All Folders icon instead).



Favorite folders are denoted in the All folders view with a star icon next their names.

To add a favorite folder, right-click it in the All folders view and choose “Add to Favorites” from the context menu that appears.

To remove a favorite folder, select “Remove from Favorites” instead.



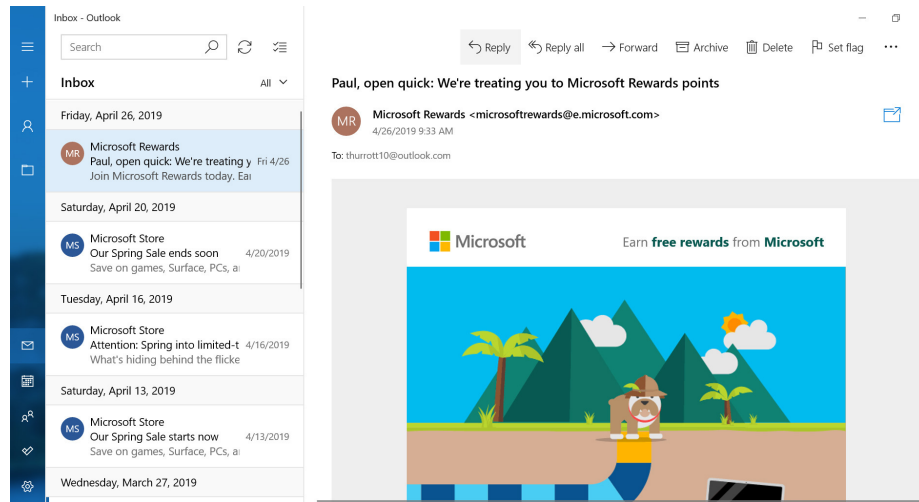
You can also pin individual email folders to Start (but not to the taskbar). That way, you can navigate to exactly where you want to go directly from Start. To do so, right-click an email folder in All folders and choose “Pin to Start.”

## Read and send email messages

As with other email solutions, you will spend most of your time in Mail reading, replying to, and sending new email messages.

## Read and manage an email message

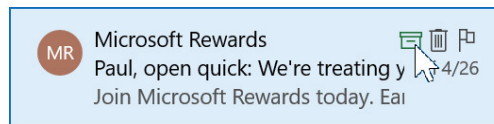
To read an email message, simply select it in the Messages pane. The contents of the message will appear in the Reading pane.



You can configure whether displaying a message this way will mark it as read in the cloud. Please refer to the *Customize Mail* section for details about this behavior.

From here, you can perform a number of additional tasks. These include:

**Quickly archive, delete, or flag the message.** Mail supports *Quick Actions*, which can be accessed via mouse—by mousing over the message header in the Messages pane, as seen below—or by touch, using a set of configurable swipe actions that are described in *Customize Mail* at the end of the chapter.

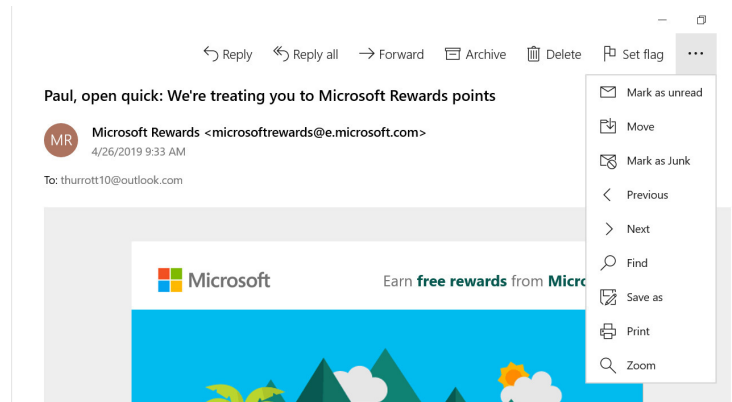


**Reply or forward the message.** Using the Reply, Reply all, or Forward toolbar buttons, you can respond to or forward the currently-viewed message.

**Archive the message.** To save the message in the cloud but remove it from your inbox, select the Archive toolbar button.

**Delete the message.** Select the Delete button to delete the currently-viewed email message.

**Perform other actions.** Be sure to check out the Actions toolbar button (“...”) to find more actions to perform on messages, including setting a flag (a feature of Microsoft email services), marking the message as read/unread, moving the message to a new folder, navigating to the previous or next message, printing the message, and more.



**Open the message in a new window.** The *Open message in a new window* button—found in the top right of the Reading pane, below the toolbar buttons—does exactly what it says it does. This is described in the section *Open an email message in a new window*, below.

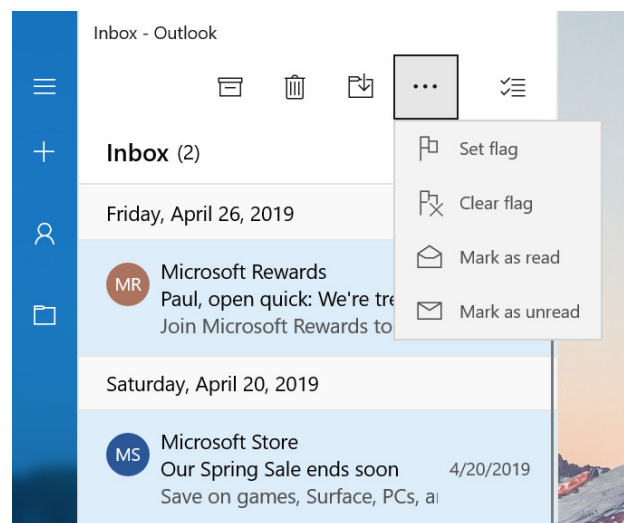
## Manage multiple messages

In addition to viewing and managing a single email message as above, Mail lets you select multiple messages at the same time and perform some actions on them.

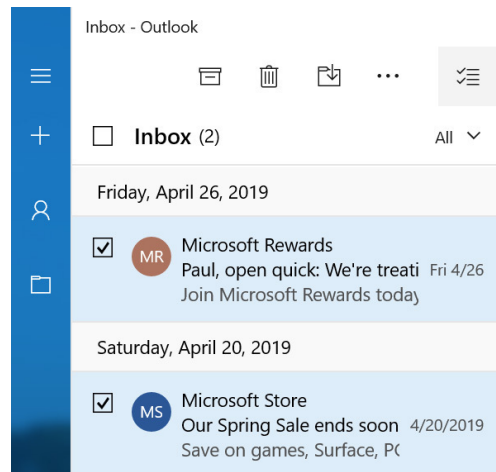
To do so with a keyboard and mouse, hold down the CTRL key and select two or more messages in the Messages pane using the mouse. The available actions you can employ—Archive, Delete, Move, and so on—will appear as toolbar icons at the top of the Messages pane and in a drop-down Actions (“...”) menu.



You can also right-click on the selected messages to access the same actions in a context menu.

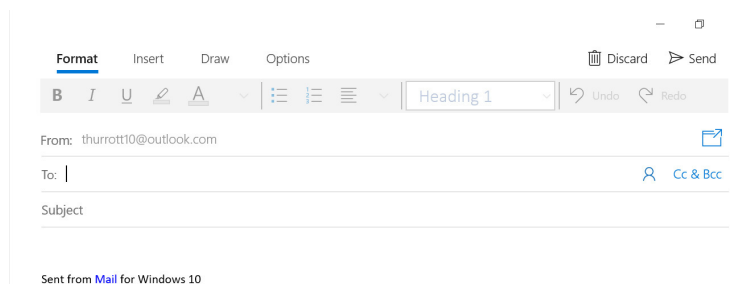


Mail also supports a special selection mode that lets you perform actions on multiple messages using touch. (You can also use this method with keyboard and a mouse, or with a pen, too.) To use this method, select the Selection mode icon at the top right of the Messages pane. When you do, a selection box appear to the left of each message, and you can tap within each box to select the messages you wish to manage.



## Create and send a new email message

To create a new email message, select the New mail (“+”) link in the upper-left corner of the app window. When you do so, the Reading pane is replaced by a New Message view.



Most of this is quite straightforward. However, here are a few less obvious tidbits.

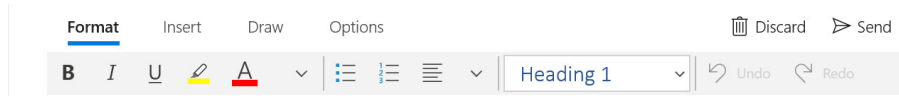
**You can choose which account to use.** How you do so depends on whether you’re using linked inboxes. If you are, you will be prompted to choose the account when you select “New mail.” Otherwise, you must select the sending account in the Navigation pane before selecting “New mail.”

**Outlook.com users can choose an alias.** If you’re using an Outlook.com (or Outlook.com Premium) account, you can choose which alias to use for the new message. See the section *Send an email message using an Outlook.com alias* below for more information.

**Mail uses Microsoft Word for its editor.** Mail uses the same powerful text editor that’s found in Word Mobile for Windows 10. It even includes a tabbed ribbon interface, and built-in spell checking,



and lets you paste complex documents from Microsoft Word into Mail. As you can see, there are many options in the message toolbar related to text formatting. (To access these options, select the body of the email message.)



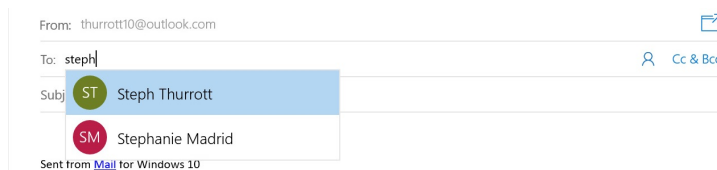
**You can add attachments and embed content directly in the email message.** You can attach one or more files to a message, as you do with other email clients. But you can also embed pictures, tables, and hyperlinks directly in a message too. Check out the Insert tab for the available options. Or, simply drag a file onto the Mail window to attach it that way.

**You can configure the default font for new email messages.** Navigate to Mail settings > Default font to customize the font used for new email messages (and do so on an account-by-account basis if desired).



Oddly, there's no way to configure Mail to send plain text messages.

**Contacts will auto-complete as you type.** When you select the To: (or CC: or BCC:) field and start typing the name of the intended recipient, Mail will provide an auto-complete drop-down of the contacts who match what you're typing.



**Remember, you can open the message in a new window.** See the section *Open an email message in a new window*, below, for more information about this useful feature.

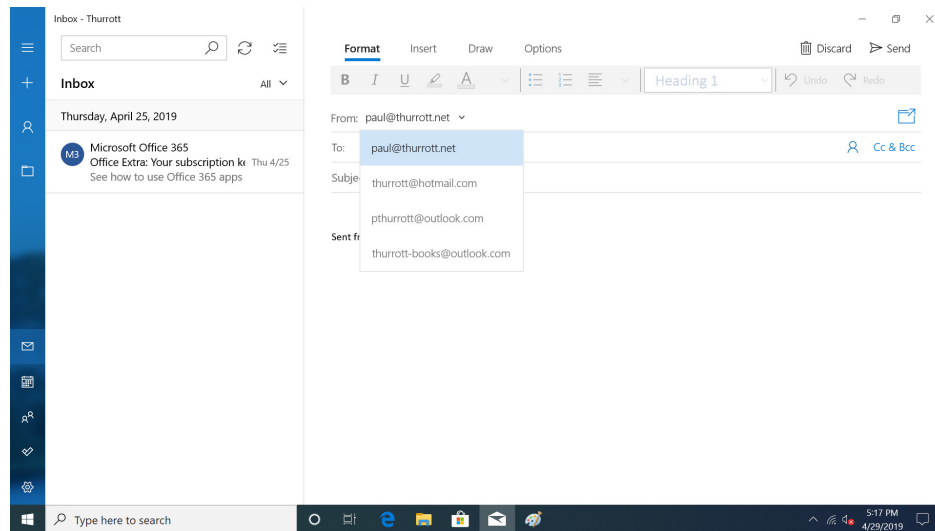
## Send an email message using an Outlook.com alias

The Mail app supports Outlook.com *aliases*, so you can send email from any alias that is associated with your account.

What's an alias, you ask? In short, it's just another email address you can use with your Outlook.com account. Which is also your Microsoft account.

That is, the email address that you first used to create your Microsoft account—usually at Outlook.com these days—is considered your *primary alias*. It's what you use to sign-in to your Microsoft account and access the services that are associated with that account. But you can also configure other aliases for your Microsoft account. These aliases are alternate ways with which you can sign-in to your Microsoft account. And they can be used to send and receive email, too.

To send an email from an Outlook.com alias, create a new email message as described above, selecting your Outlook.com account if you have multiple email accounts configured in the app. Then, select your email address in the To: field. A pop-up menu will appear, listing your primary Outlook.com email address and any aliases you have configured.



Now, just select the alias you wish to use from the list.



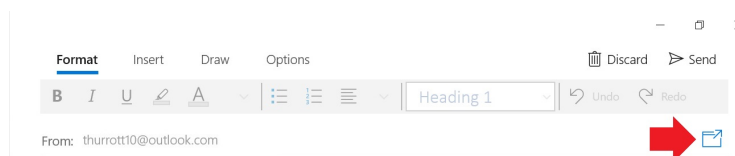
You cannot create or manage your Outlook.com aliases in the Mail app. Instead, [you will need to visit the Microsoft account website](#) to do so.

## Use Mail more efficiently

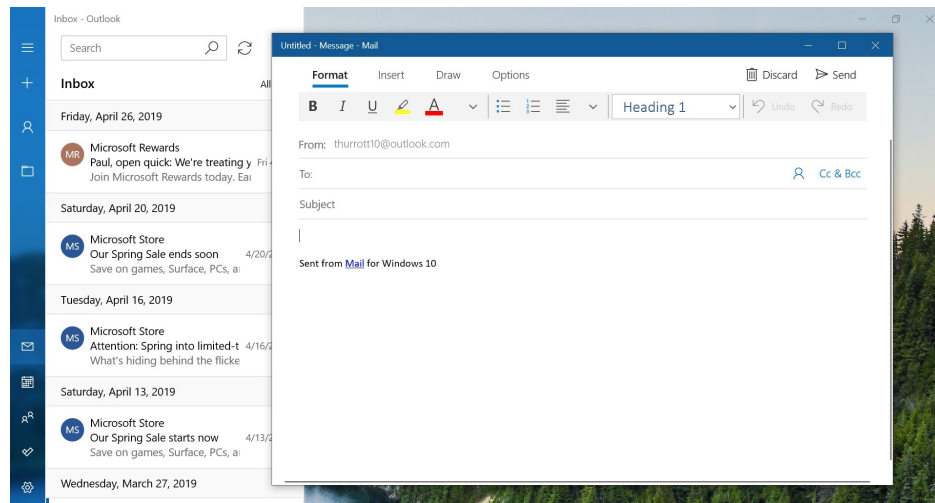
The Windows 10 Mail app looks and works like many other email solutions, so you should be able to get up and running very quickly. But if you master some of Mail's unique but less obvious features, you can be more efficient when you use the app.

### Open an email message in a new window

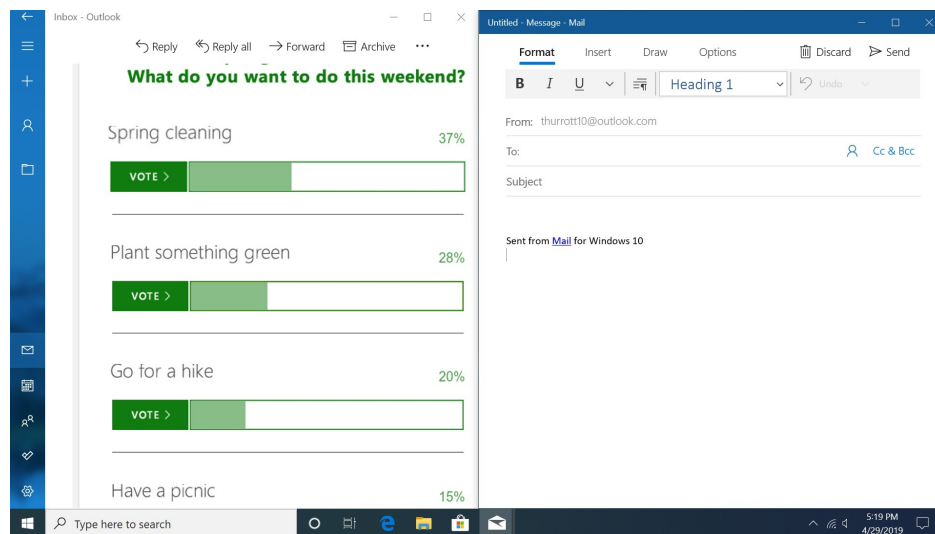
When you are reading or composing an email message, you will see an “Open message in a new window” button below the toolbar.



To open the current message in a new window, select this button.



Once you open a message in a new window, you can arrange it on-screen as you would any app window. So you could snap it side-by-side with the main Mail app window or even another email message window.



You can open any number of messages in new windows as you desire.

## Focus on what's important with Focused Inbox

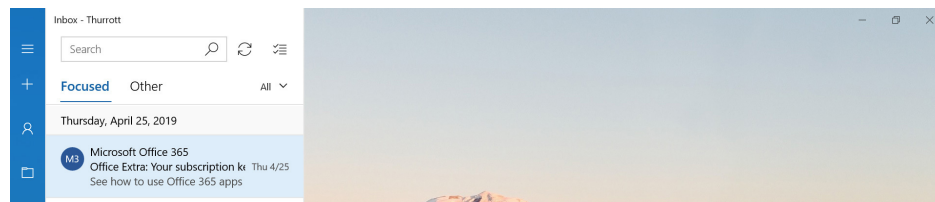
Like other Microsoft email solutions, Mail includes a feature called *Focused Inbox* that can help you focus on your most important emails and ignore newsletters and other machine-generated email

messages. Once enabled, Focused Inbox will split the Messages pane into two tabs, called Focused and Other.



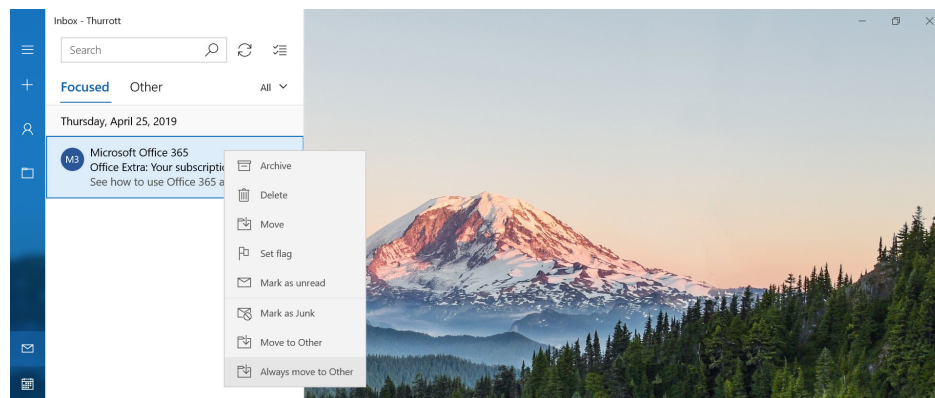
Focused Inbox only works with Microsoft email services like Outlook.com and Office 365 at this time. And even then, it doesn't work with all accounts.

The Focused tab includes those emails that Mail believes are important. Meanwhile, the Other tab lists all of your other emails.



Focused Inbox is sometimes enabled automatically when you add a compatible account to Mail. If not, you can enable it manually by navigating to Mail settings > Focused inbox. Then, enable this feature for the account(s) that support it.

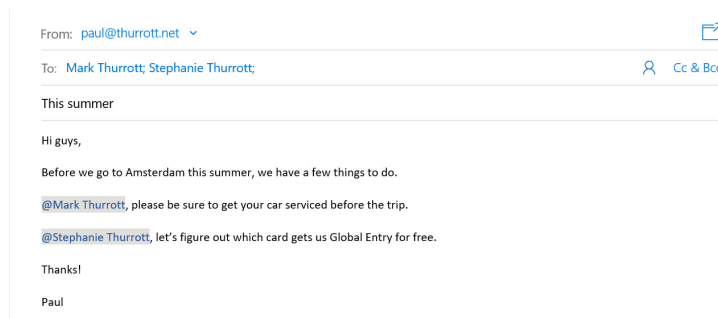
Focused Inbox may not work very well at first. But you can train it to understand what's important to you by moving messages to the appropriate tab. To do so, right-click the email message in the Messages view and choose “Move to Focused” or “Move to Other” in the pop-up menu that appears.



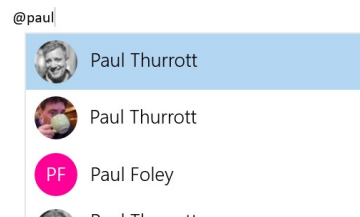
To train Focused Inbox to *always* move messages from that sender to the right tab, choose “Always move to Focused” or “Always move to Other” instead, as shown above.

## Get someone's attention with @mentions

Taking a cue from social networking services like Facebook and Twitter, Mail supports a feature called @mentions (“at mentions”) that lets you easily find people in your contacts list and call them out in email messages. It's a neat new way to get someone's attention.



To add an @mention to an email message, simply type the @ character inside the message followed by a letter. When you do, a drop-down menu appears, listing the contacts that match what you've typed. Keep typing to further filter the list and find the right contact.



Once you select a person from the list, that contact will automatically be added to the To: field.



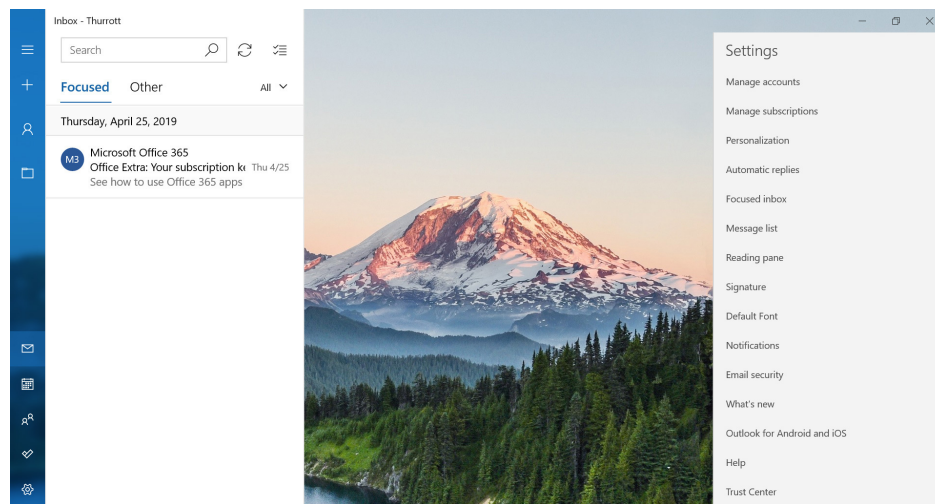
@mentions are also actionable hyperlinks within an email message: You can click one to send a new email message to that contact.

## Customize Mail

You can customize the behavior of Mail using its settings interface, which is accessible via the Settings (gear) icon in the lower left of the app window. You should examine all of the available options here at least once.



When you select this item, the Settings pane appears.

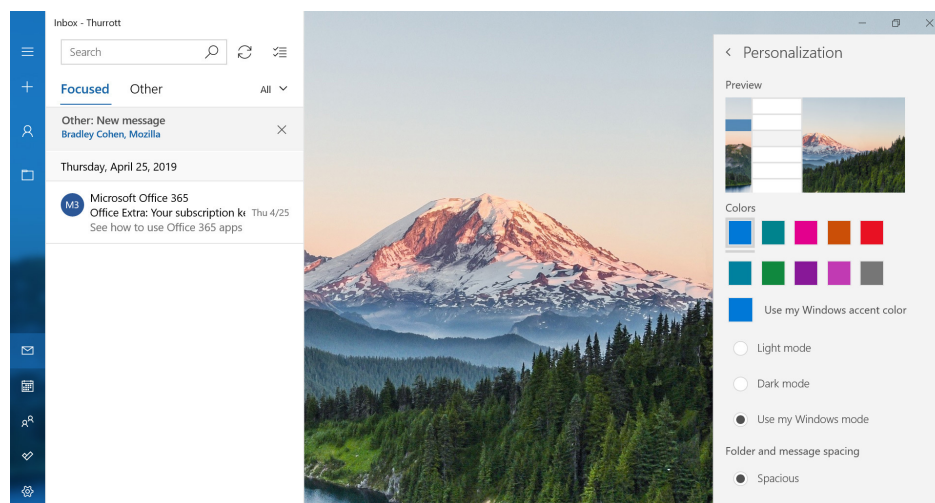


While many of the options available here are obvious or covered elsewhere in the chapter—we discuss adding and configuring accounts earlier, for example—some merit further discussion.

## Personalize the look of the Mail app

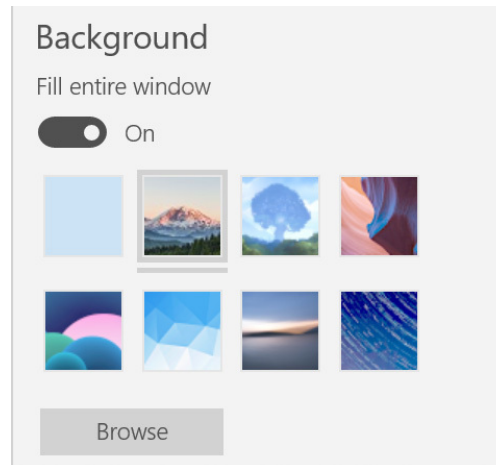
In Settings > Personalization, you can configure various features that can alter the look and feel of the Mail app.

Mail's color scheme consists of two parts, an accent color and an app mode, the latter of which can be Light, Dark, or whatever the Windows app mode is set to. Each can be configured to your liking, assuming you don't mind choosing from just a handful of custom colors for the accent color.



The system-wide Windows app mode is configured in Windows 10 Settings > Personalization > Colors > “Choose your default app mode.”

Somewhat unique among the apps that come with Windows, Mail is also configured with a background picture by default. While that is unusual, you can at least change the picture in the Background section of Settings > Personalization.



## Configure how messages are read in Mail

You can determine how email messages are arranged and managed in Mail. To do so, navigate to Settings > Reading pane.

There are numerous options to consider here. Some of the key options include:

**Whether to automatically open the next message when you close the current message.** If you are reading an email message and close it in some way—perhaps by archiving, deleting, or moving it to a new folder—Mail will clear the Reading pane and display the background picture. Optionally, however, you can enable the option “Auto-open next item” and Mail will instead display the next email message.

**Whether to automatically mark email message as read and, if so, when.** Using the options under “Mark item as read,” you can configure how each email message is marked as having been read: When the selection changes (the default), never (“Don’t automatically mark item as read”), or when viewed in the reading pane for some number of seconds.

**Whether to automatically display external content.** Many HTML-based emails will try to display images, and style formats that need to be downloaded from a web server. By default, Mail will not download this content. But using the options under “External content,” you can decide whether to do so on an account-by-account basis. If you do decide to not download external content by default, you can do so on the fly when you are viewing a message.

**Whether to use Focused Inbox.** Mail, like other Microsoft email apps, supports a unique feature called Featured Inbox, though it is disabled by default. This feature is described earlier in the chapter.

## Configure other Mail options

Settings in Mail provides a number of other useful options, many of which can be configured on a per-account basis if desired.

Key options include:

**Conversation View.** By default, Mail displays messages using something Microsoft calls Conversation View, where email messages in the Messages pane are grouped by conversation instead of in strict chronological order. If you don't like this arrangement, you can disable Conversation View by navigating to Mail settings > Message list > Organization. Change this to "Individual messages."

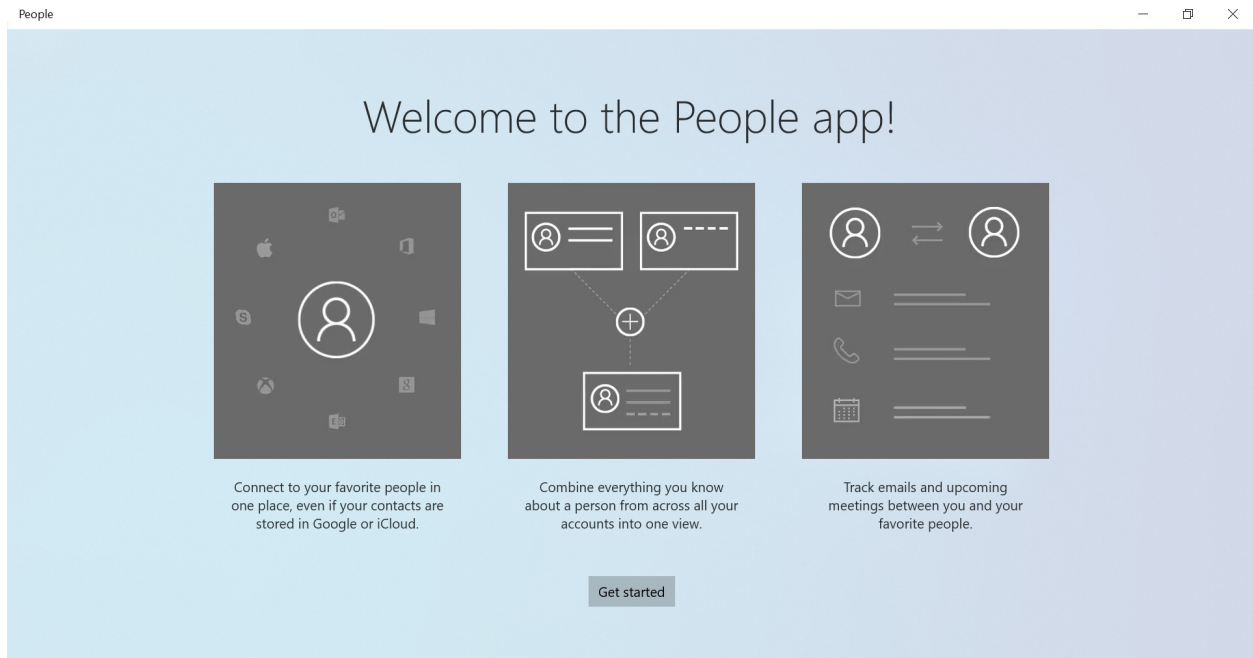
**Swipe actions.** If you're using Mail on a touch-first device like a tablet, you can configure two Quick Actions as swipes—where you swipe left or right on an email message in the messages pane—for quickly triaging email messages. Available choices for each action include Set/Clear Flag, Mark as Read/Unread, Archive, Delete, Move, and Move to Junk. You do so in Mail settings > Message list > Swipe actions.

**Signature.** By default, Mail is configured to add a lame signature ("Sent from Mail for Windows 10") to the end of every email message you send. You can edit this text or, better yet, just disable it in Mail settings > Signature.

**Notifications.** You can configure whether Mail notifications appear in Action Center, as they do by default, and whether to display a notification banner, play a sound when new email arrives, and/or show notifications for email folders you've pinned to Start. You do so in Mail settings > Notifications.



# People



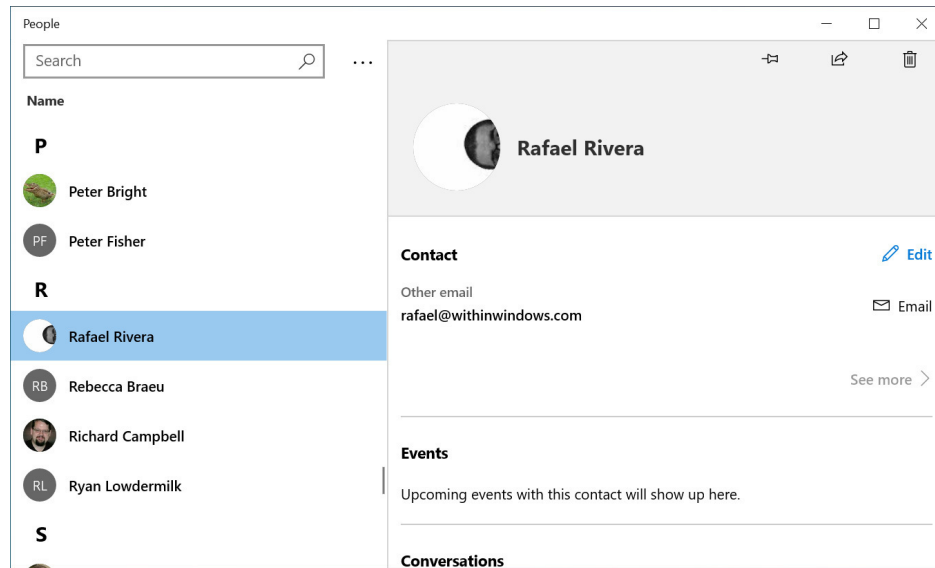
## Get to know the People app

The People app can connect to multiple online accounts and help you manage both your work and personal contacts.



People works *only* with online accounts. You cannot use this app to create contacts that are local to your PC only. If you do not sign-in to Windows with a Microsoft account, as we recommend, you will need to add at least one online account to People when you first launch the app.

The People app provides a simple multi-pane interface, with an alphabetical list of the contacts in all of your connected accounts on the left and details about the currently-selected contact on the right.

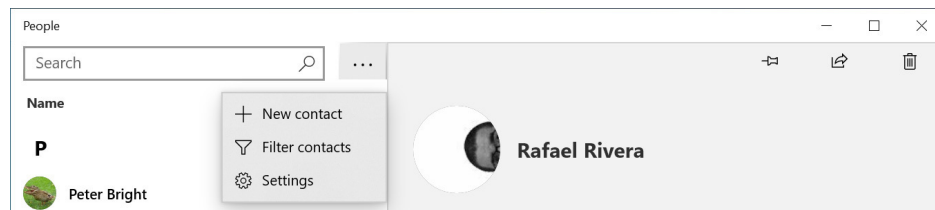


If you can resize the window to make it wider, you will see Email and Phone columns appear with each contact on the left as well. Likewise, it's possible to shrink the window such that only a single pane is available.

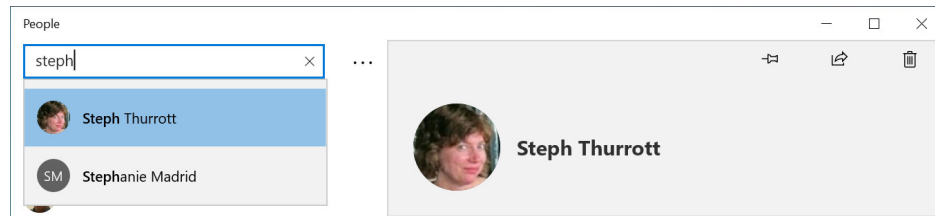
The contacts list column has three buttons at the top: New contact, Filter contacts, and Settings.



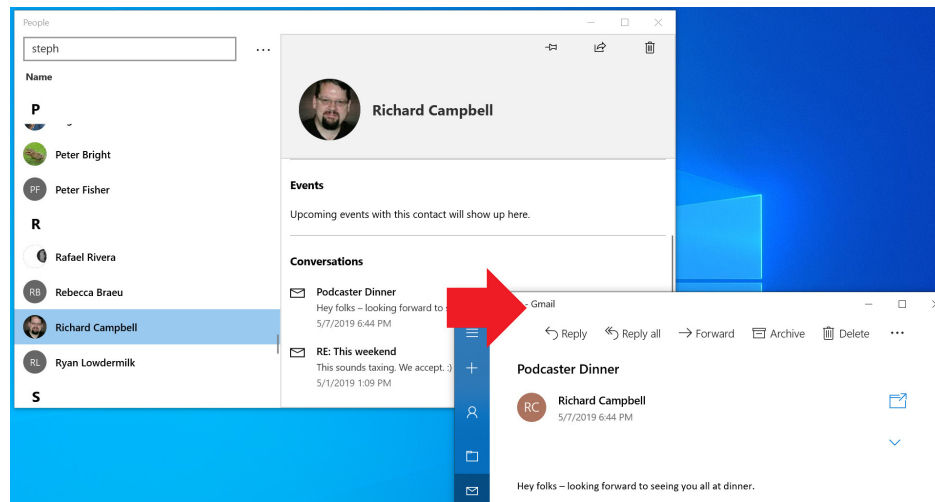
If the window is sized smaller, one or more of these buttons will disappear and be hidden inside a See more ("...") menu.



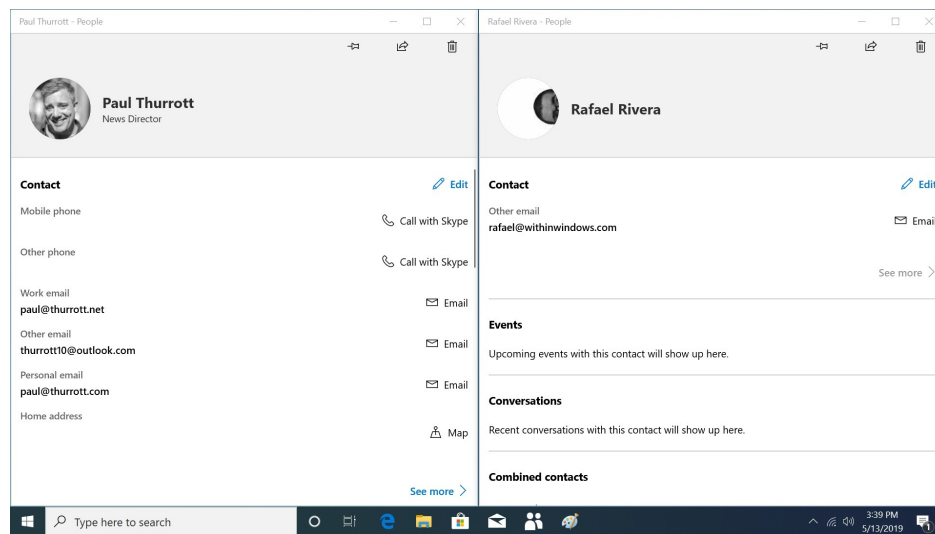
You can optionally filter the display to show only the contacts from certain accounts, as described later in the chapter. Or you can also use the Search box to find exactly the person you're looking for.



People displays the interactions you've had with each contact. This can include events, (email) conversations, and more. These items are interactive. If you select an event, for example, it will open in the Calendar app. Likewise, Mail will open if you select an email conversation.



If you would like to view two or more contacts side-by-side in their own windows, right-click a contact in the contacts list and choose “Open in new window” from the context menu that appears. You can perform this action multiple times, if you'd like. Or use the system Snap feature to display two contacts side-by-side in a full screen display.



The People app isn't particularly interesting in its own right. You will likely use this app only occasionally for contacts management: To consolidate duplicate contacts, change a contact's phone number, or perform other housekeeping duties. It's not an app most people will use every day, like Mail or a web browser.



Windows also includes a special desktop feature called My People that was designed to help you interact more naturally with your favorite contacts right from the taskbar. But because this feature wasn't popular with users, it's been deprecated in the most recent Windows version and is not enabled by default. For this reason, we no longer cover My People in this book.

## Manage accounts

People lets you manage one or more online accounts all from a single place.

### Add and configure an account

If you sign-in to Windows with your Microsoft account—which we recommend—People will have already configured that account to work with the app. But it will also prompt you to add an account when the app is first launched.

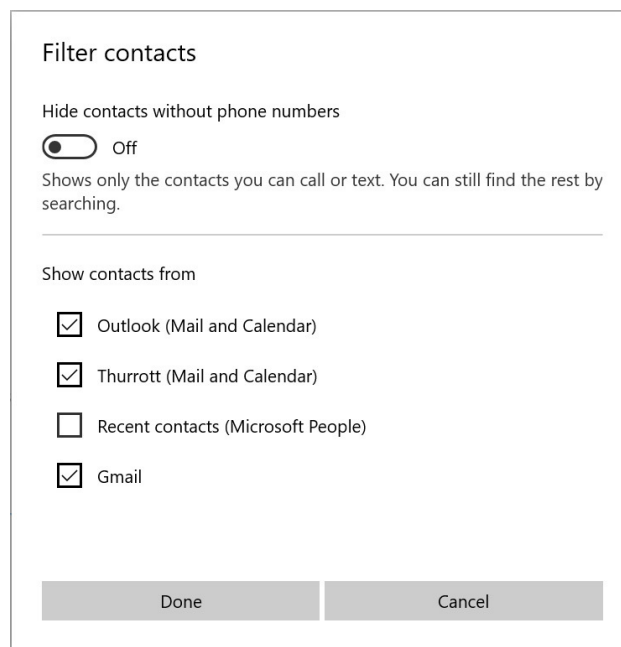
You can do so now, or at any time later. But we recommend adding and configuring additional accounts via the system Settings app instead: As it turns out, the Mail, Calendar, and People apps that come with Windows are all configured to use the same online accounts, which Microsoft calls *email accounts*. And these are most easily created and managed in Settings. To do so, navigate to Settings (WINKEY + I) > Accounts > Email & accounts.

We describe email account creation and management further in the *Configure email accounts* section of the Accounts chapter.

## Filter the contacts list

By default, the contacts list will display all of your contacts, for all of your configured accounts, commingled together. However, you can optionally configure People to only display contacts from certain accounts. That way, you can still access them from other apps, like Mail. But they won't clutter up the contacts list in People.

To filter the contacts list, select the Filter contacts button at the top of the list. The Filter contacts window appears.

A screenshot of the 'Filter contacts' dialog box. The title is 'Filter contacts'. Below the title is a toggle switch for 'Hide contacts without phone numbers', which is currently turned off. Below the toggle is a line of text: 'Shows only the contacts you can call or text. You can still find the rest by searching.' Below this is a section titled 'Show contacts from' with four checkboxes. The first three are checked: 'Outlook (Mail and Calendar)', 'Thurrott (Mail and Calendar)', and 'Gmail'. The fourth is unchecked: 'Recent contacts (Microsoft People)'. At the bottom are two buttons: 'Done' and 'Cancel'.

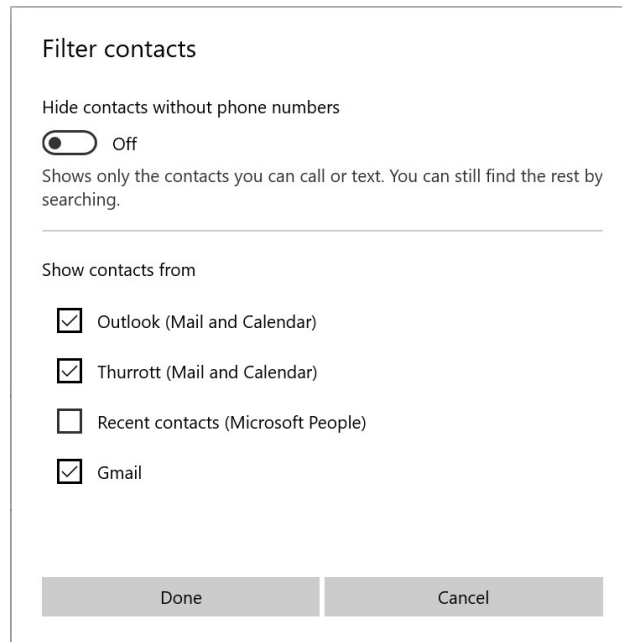
Here, you can uncheck those accounts for which you do not wish to see contacts. You can also choose to hide those contacts that do not have associated phone numbers.

## Manage contacts with the People app

People is a simple app, but it provides everything you need to manage the contacts in your online accounts.

### Create a new contact

To create a new contact, select the New contact button, which resembles a “+” sign and can be found at the top of the contacts list.



The image shows a 'Filter contacts' dialog box. At the top, it has the title 'Filter contacts'. Below the title, there is a section 'Hide contacts without phone numbers' with a toggle switch set to 'Off'. A note below this says 'Shows only the contacts you can call or text. You can still find the rest by searching.' Below this is a horizontal line. Under the line, it says 'Show contacts from' followed by a list of four accounts with checkboxes: 'Outlook (Mail and Calendar)' (checked), 'Thurrott (Mail and Calendar)' (checked), 'Recent contacts (Microsoft People)' (unchecked), and 'Gmail' (checked). At the bottom of the dialog are two buttons: 'Done' and 'Cancel'.

**Filter contacts**

Hide contacts without phone numbers

☐ Off

Shows only the contacts you can call or text. You can still find the rest by searching.

---

Show contacts from

- ☒ Outlook (Mail and Calendar)
- ☒ Thurrott (Mail and Calendar)
- ☐ Recent contacts (Microsoft People)
- ☒ Gmail

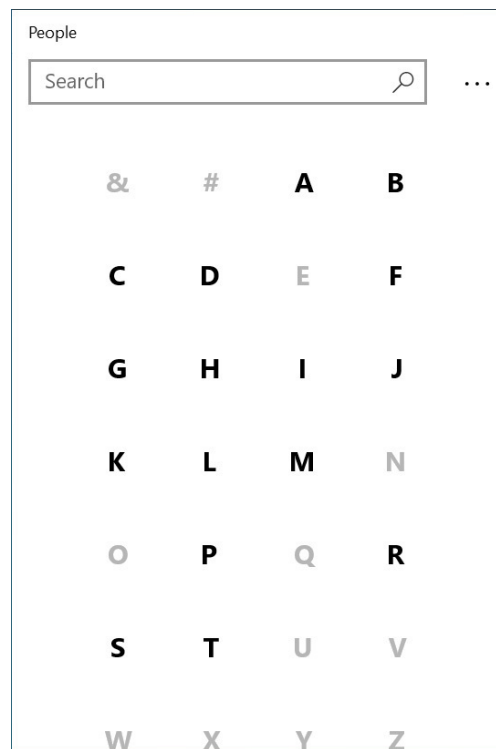
Done Cancel

The New contact display provides a wealth of fields for you fill out as needed, and is fairly obvious in use. As you should expect, this information is stored in the cloud one of the accounts you've configured; you can choose which account to use with the Save to field.

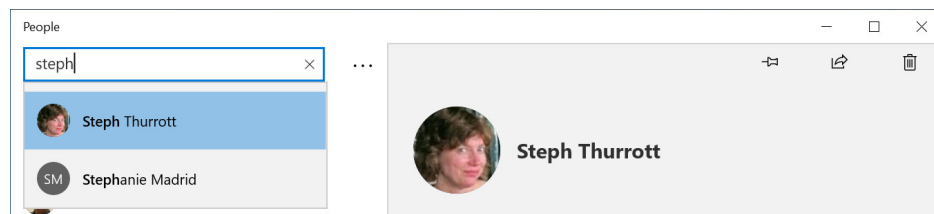
## Find a contact

While you can of course scroll through the contacts list to find an individual contact, there are also some more sophisticated ways to do so. This is especially useful for those with multiple accounts and many contacts.

First, you should know about a hidden navigation feature: If you select a letter header (like "A") in the contacts list, you will be presented with a semantic zoom user interface that lets you quickly navigate to contacts that start with another letter.



You can also search your contacts using the handy Search box at the top of the contacts list. This works as you'd expect: As you type, the list will filter to show you the names of contacts that match what you've typed.

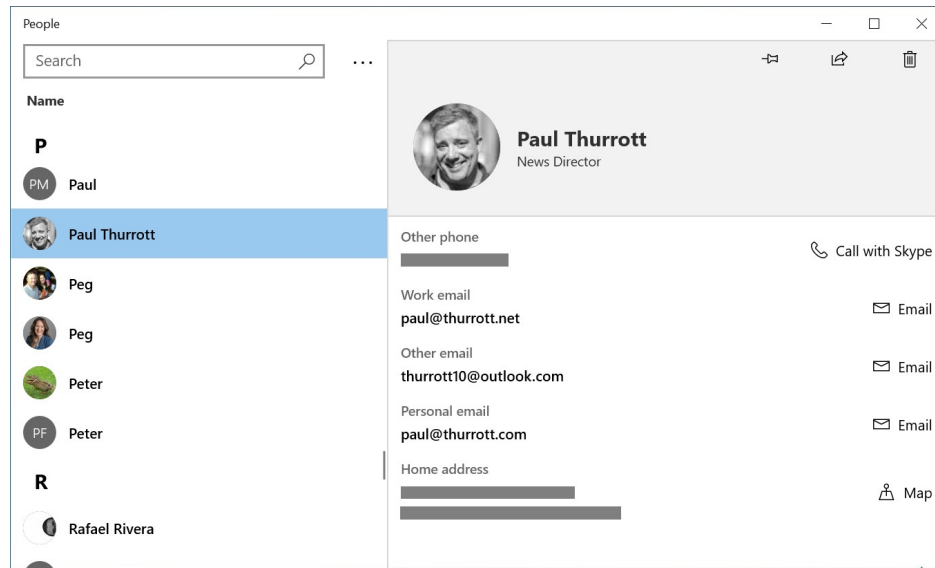


A “Search Directory” link will appear if you have configured an Office 365 business account. This link lets you extend your search to your workplace’s corporate directory, or address book.

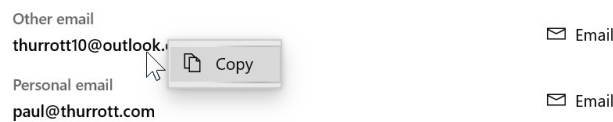
## Interact with a contact

Each contact can have a lot of associated information—their name, the account(s) with which they are associated, various phone numbers, and more, plus a list of your recent interactions—and when you display an individual contact, you can interact with that information in useful ways.

For example, phone numbers can be called with Skype, email addresses can be accessed with Mail, and physical addresses can be found using the Maps app.



Here's a fun, non-obvious feature: You can quickly copy any contact item—phone number, email address, whatever—to the clipboard for use elsewhere. To do so, just right-click it and choose Copy from the pop-up menu that appears.



## Edit a contact

At some point, you may wish to modify an existing contact to correct or add new information.

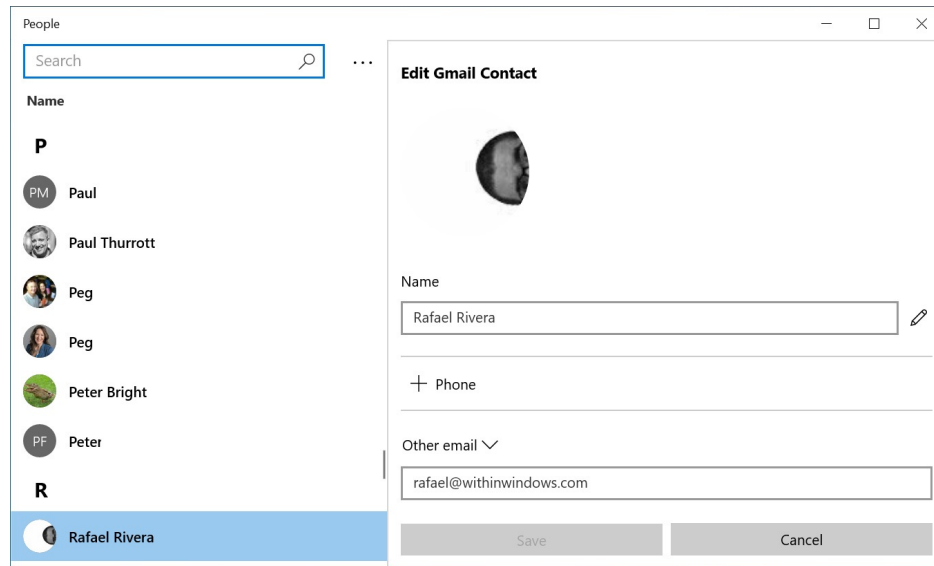
To do so, select the contact in the contacts list and then select the Edit link.



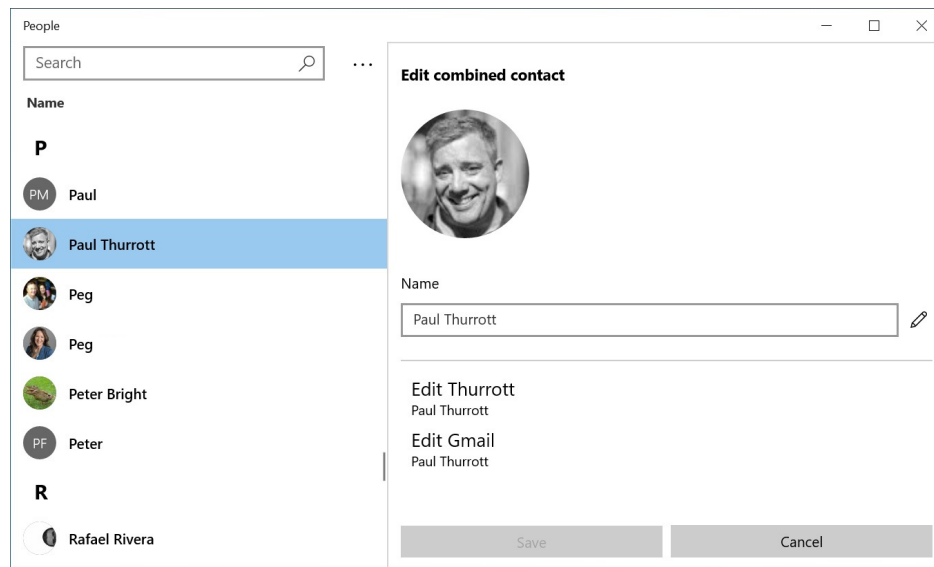
You can also right-click the contact in the contacts list and choose Edit from context menu that appears.

If the contact is associated with only a single account, this process is straight forward, and you can now edit or add information to any of the data fields associated with that contact.





Some contacts, however, are *combined*, meaning that they contain information pulled from two or more accounts. That is, you might have a Bob Smith in your Outlook.com account, a Bob Smith in your Office 365 account, and a Bob Smith in your Google account. If those contacts appear to represent the same people, the People app will combine them so that you can view the information from each account in a single contact. This is useful and desirable. But it also makes editing the contact a bit more difficult, because you will need to choose the account to edit as well before you can proceed.

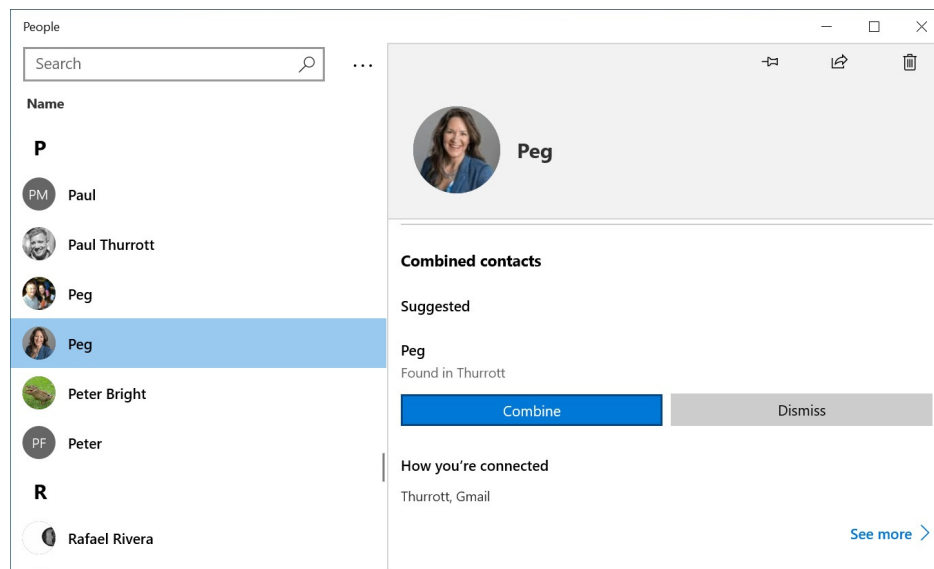


You can also initiate the edit process by right-clicking the contact in the contacts list and choosing “Edit” from the pop-up menu that appears.

## Combine and separate contacts

Sometimes, the People app doesn't correctly combine contacts, either because of small discrepancies in how certain information appears in each account or for other reasons. In such cases, you can combine those contacts that should be combined. And you can likewise separate contacts that should not be combined.

To combine two or more contacts, display one of the contacts that isn't combined correctly. Then, select the Combine button that is found below the Conversations area in the contact card.



To separate a combined contact, open the contact, scroll down to the bottom of the contact card, and select “See more.” Then, select the Separate button.

## Delete a contact

To delete a contact, display that contact in People and then select the Delete button in the top-right of the app window.

You will be prompted before the contact is deleted. And if the contact is combined (that, it appears in multiple accounts), you will be asked to choose an account first. So you will need to repeat these steps for each account.



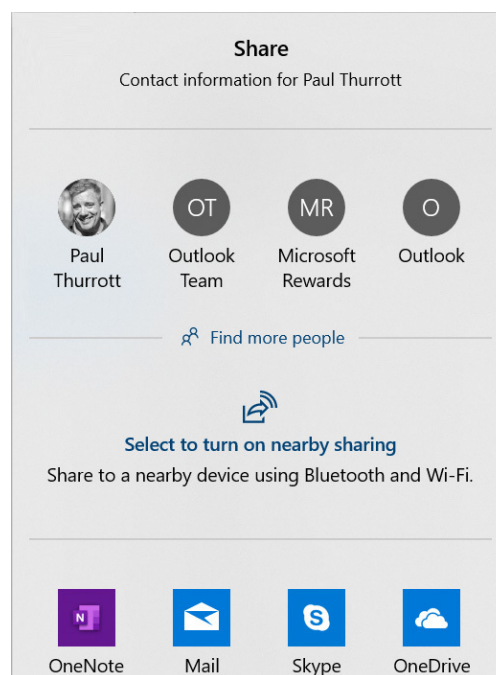
You can also initiate the delete process by right-clicking the contact in the contacts list and choosing “Delete” from the pop-up menu that appears.

## Share a contact

You can share a contact's information with others using the system-wide Share functionality that is built into Windows. To do so, display the contact and then select the Share button in the top right of the app window.



People will then display the information it will share; this varies based on how much information you have for the contact. Select the Share contact button to launch the Share window.



What you see here will vary according to which people and apps you interact with regularly. But you should at least see the following choices:

**Recent contacts.** The Share window displays your four most recently-accessed contacts at the top. Select one to share the contact's details with that person via email. (If the receiving contact has multiple email accounts, you will be asked to choose one. Likewise, if you have multiple email accounts configured for yourself in Windows, you will be asked to choose which account to use.)

**Find more people.** Select the “Find more people” link to select any contact that's configured in the People app. The contact information will be shared via email, as above.

**Nearby sharing.** A Windows feature called Nearby sharing lets you send contacts—as well as files, links, photos, and other content—to nearby PCs using Bluetooth. Nearby sharing needs to be enabled

before you can use it, and it only works if the other PC is using Windows 10 version 1803 or newer.

**Apps.** You will have at least a few apps on your PC that can receive a shared contact, including Mail, OneNote, and Skype (each of which is included with Windows). So you can select one of these apps, or any other listed app to share the contact's details that way.

**Get apps in Store.** The “Get apps in Store” link at the bottom of the Share window will open the Store app and display a list of apps that are compatible with contact sharing. This way, you can find other relevant apps that may be of interest.

## Access your contacts from outside the People app

While you can use the People app to add or modify contacts in your online accounts, you will more typically interact with those people from outside of this app. For example, you can interact with your contacts from apps like Mail and Calendar, both of which are included with Windows.

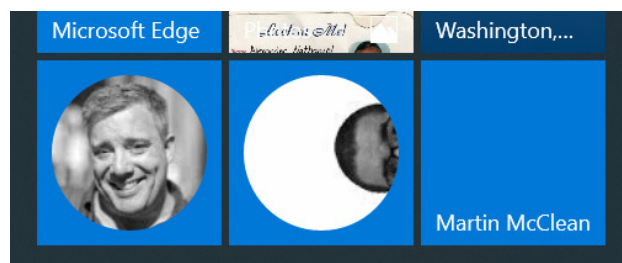
But Windows also lets you pin your favorite and most-frequently-accessed contacts to Start.



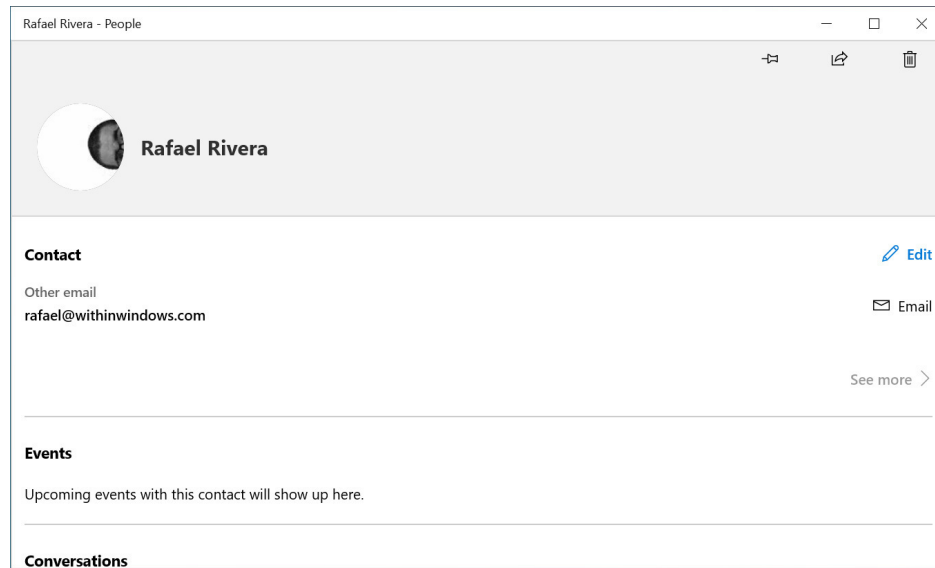
Windows lets you pin a contact to the taskbar, too. But doing so will enable a deprecated Windows feature called My People which we no longer cover in this book.

To pin a contact to Start, open People and find a favorite contact in the contacts list. Then, right-click on their name in the Contacts pane, and then choose “Pin to Start” from the context menu that appears.

After a confirmation, the contact is pinned to Start as a Medium-sized tile. But pinned contacts can be moved around Start, grouped, and resized just like any other tiles.



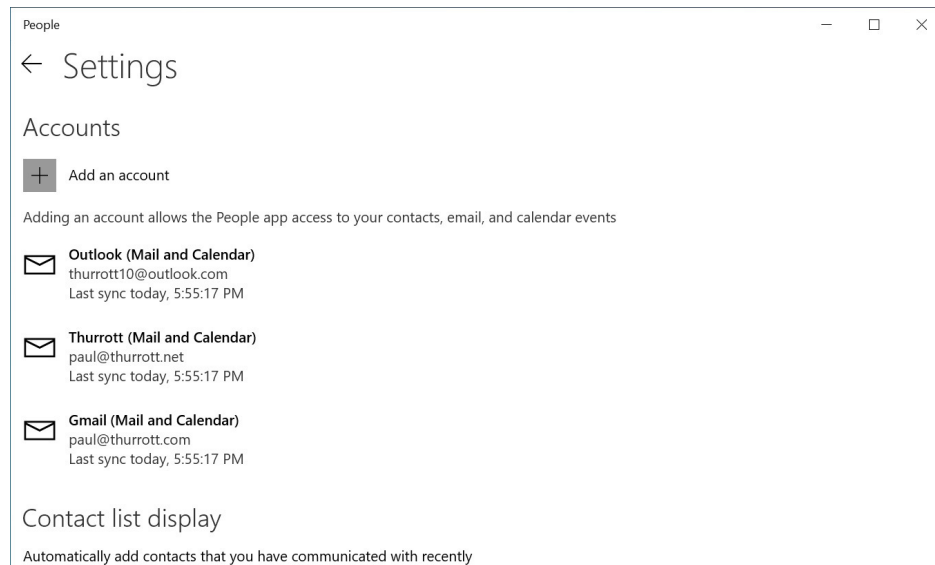
When you select a contact in Start, that person's contact card displays in its own window. From here, you can call them, email them, see and interact with previous conversations, and more, as you can in the full People app.



This contact card is the same view you get when you open a contact in a new window from the People app.

## Configure People

The People app doesn't have a lot by way of configuration, but if you visit Settings in the app, you will find a few configurable options.

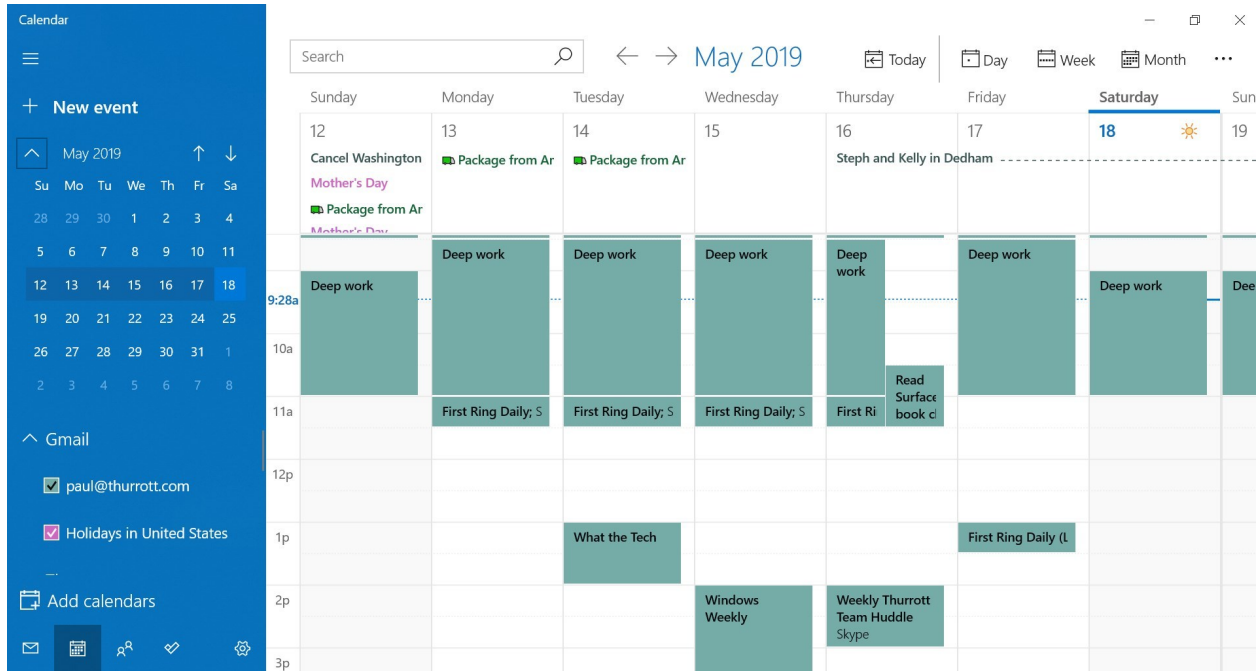


These include:

**Manage accounts.** As noted earlier in the chapter, People provides an interface for adding and managing your online accounts.

**Contact list display.** Here, you can change how the contacts list appears, using sorting, display, and filtering choices. By default, People sorts and displays contacts by first name; if this isn't what you want, you can change it here.

# Calendar



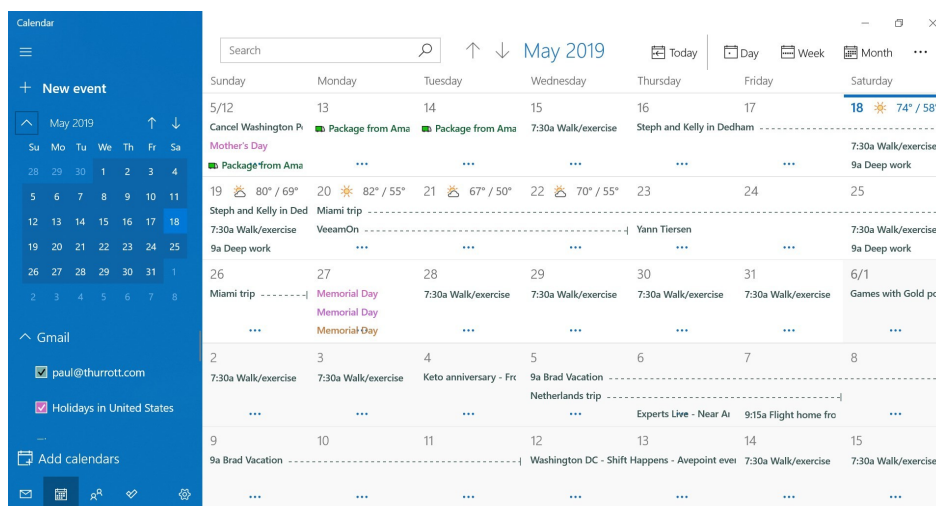
## Get to know the Calendar app

The Calendar app can connect to multiple online accounts so you can manage your work and personal schedules from a single place. It can also connect to publicly-available, cloud-based calendars for holidays, sports, and television.

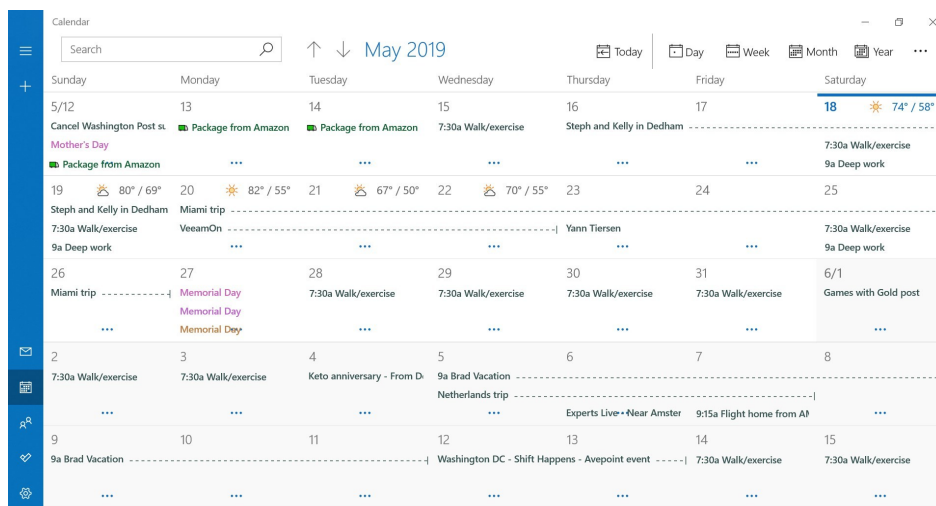


Calendar works *only* with online accounts and calendars. You cannot use this app to create calendars and events that are local to your PC only. If you do not sign-in to Windows with a Microsoft account, as we recommend, you will need to add at least one online account to Calendar when you first launch the app.

Calendar offers all of the usual date-based views found in other calendaring solutions and works largely as you'd expect.



Like many of the other apps that are included with Windows, Calendar’s Navigation pane is collapsible. Just select the menu control, sometimes called the “hamburger,” in the top left. When you do, the pane shrinks and displays only icons.



And yes, you can select this control again to expand the Navigation pane. You will need this pane open to access the Month control, and to determine which of the calendars—from your connected accounts and from the cloud—can be accessed from within the app and in other places in Windows.

## Work with Calendar views

Calendar provides several views from which to choose. You select the view using the toolbar in the upper right of the app window.

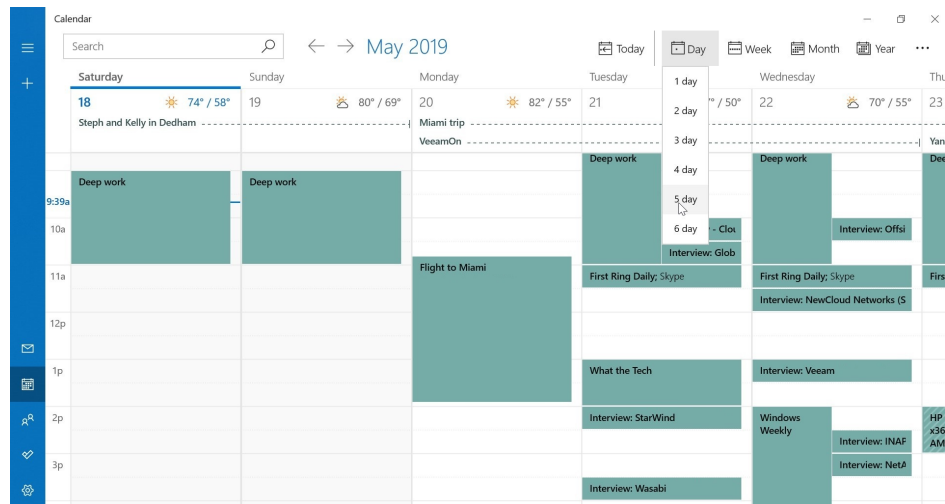




The following views are available.

**Day.** This view displays the events that are occurring today.

**Multi-day.** It's a bit hidden, but Calendar also lets you pick from several multi-day choices—2, 3, 4, 5, and 6-day views—by selecting a little drop-down control next to Day in the toolbar. and then choosing accordingly.



**Week.** This view displays an entire week of 7 days, from Sunday through Saturday by default. You can configure the first day of the week in Calendar settings as described in the section *Customize Calendar*.

**Work week.** As with the multi-day views, this choice is hidden in a drop-down menu, in this case next to the Week toolbar button. This view displays only the work week, which is Monday through Friday by default. You can change the days that constitute a work week in Calendar settings, as described in the section *Customize Calendar*.

**Month.** In this default Calendar view, you see the familiar grid-based month view of your schedule.

**Year.** Here, you will see the entire year in a single view, organized by month. Note that there are no events displayed in this view. If you select a month, Calendar will display that month in Month view.

## Return to the current day

When you launch Calendar, it will display the current date in whichever view you've configured. But as you navigate around your schedule, you will often find yourself viewing other days.

To return to the current day in whatever view is currently configured, select the Today button in the toolbar.

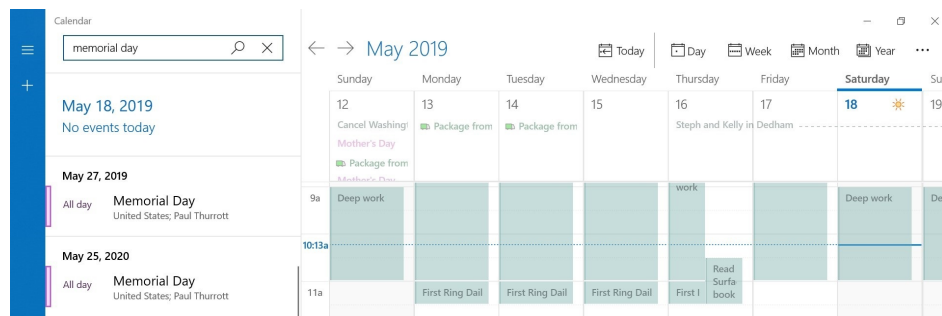
## Navigate backwards and forwards in time

Calendar supplies Go back and Go forward buttons in the upper left of the window so that you can navigate backwards and forwards in time, respectively. The amount of time they move is based on the view. For example, in Week view, these buttons will navigate by one week, whereas in Month view, they navigate from month to month.



## Find a specific event or meeting

The search box in the upper left of the Calendar window is used to find a specific event or meeting. Search results are shown in a pane that appears under the search box.



## Manage accounts and calendars

Calendar lets you use multiple online accounts, each with one or more calendars, all from a single place. You can also add cloud-based calendars to the Calendar app.

### Add and configure an account

If you sign-in to Windows with your Microsoft account—which we recommend—Calendar will have already configured that account to work with the app. But it will also prompt you to add an account when the app is first launched.

You can do so now, or at any time later. But we recommend adding and configuring additional accounts via the system Settings app instead: As it turns out, the Mail, Calendar, and People apps that come with Windows are all configured to use the same online accounts, which Microsoft calls *email accounts*. And these are most easily created and managed in Settings. To do so, navigate to Settings (WINKEY + I) > Accounts > Email & accounts.

We describe email account creation and management further in the *Configure email accounts* section of the Accounts chapter.

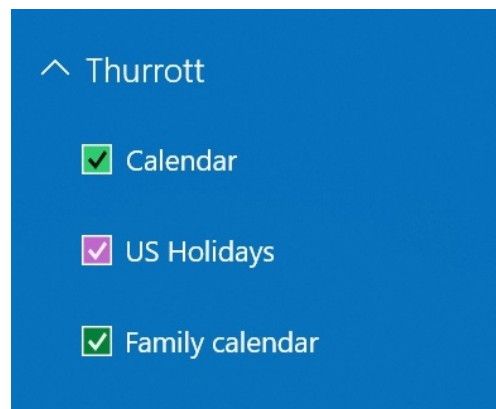
## Show, hide and configure calendars for an account

Calendar lets you configure which calendars it displays from each of your connected accounts. You do so from the Navigation pane.



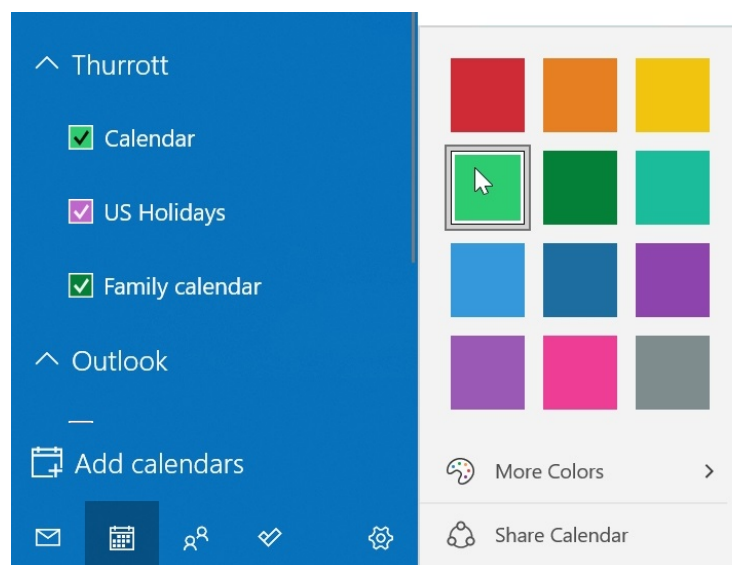
If the Navigation pane is collapsed, you will need to select the Menu button to expand it before you can see or configure these calendars.

Below the Month widget in this pane, you will see a list of your connected accounts. Each displays one or more associated calendars, each of which is assigned its own unique color. (You can expand and collapse each account, too. When you collapse an account, its calendars list is hidden.)



To hide an individual calendar, simply uncheck it here.

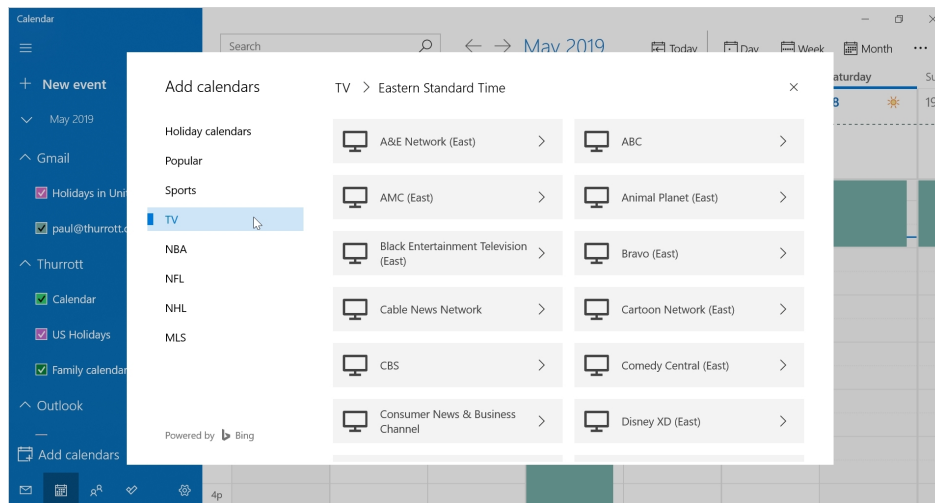
To change the color used to display a calendar, right-click the calendar and then select the color you prefer from the pop-up that appears. The More Colors link provides many more options.



## Add calendars from the cloud

You can add public, cloud-based calendars—for such things as sports and TV show schedules—to Calendar. You do so using the “Add calendars” link in the Navigation pane.

When you select this link, the Add calendars window appears, providing you with a menu of choices. To find a calendar, simply navigate through the available options.



Cloud-based calendars are added to your Microsoft account and will sync with that account. This lets you manage these calendars easily: You can assign a custom color to each, hide them, or remove them here in the Calendar app like you do with other calendars.



These calendars will also trigger notifications like other calendars. (Notifications are discussed later in the chapter.)

## Manage events and meetings

Calendar lets you manage *events*, including *meetings*, which are a special kind of event in which there are other participants. Each event is associated with a one calendar in an online account. These events can be quite detailed and can include lots of associated information.

## Understand how events are displayed in Calendar

Events appear as color rectangles in Calendar regardless of the view you’ve selected. The color of each corresponds to the color of the calendar in which they are located. For example, the events you can see below are all colored teal green, so all of them are in the same calendar.

	Walk/exercise	Walk/exercise	Walk/exercise	Walk/exercise
Flight home from Miami	Deep work	Deep work	Deep work	Deep work
	First Ring Daily; Skype	First Ring Daily; Skype	First Ring Daily; Skype	First Ring Daily; Skype



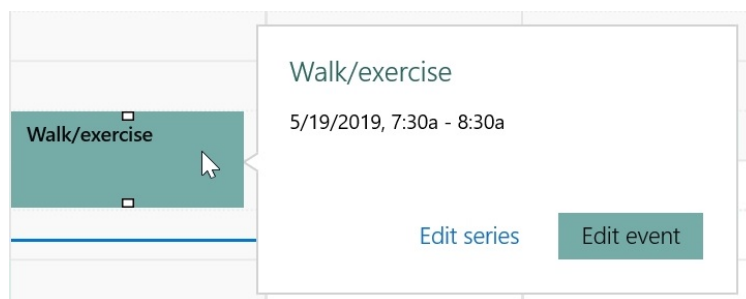
Multi-day events, all-day events, and events that were created on the web can be colored a bit differently. For example, a multi-day event uses a colored dash on those days instead of a solid rectangle.

20	81° / 54°	21	67° / 51°	22	69° / 57°	23		24		25		26
Miami trip	-----											
VeeamOn	-----											

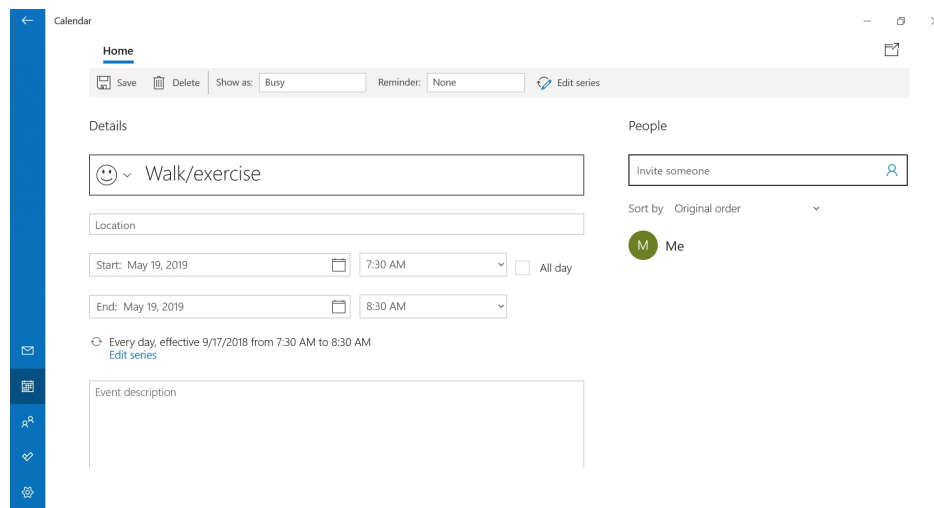
## View and edit an event

Calendar provides different ways to view an event:

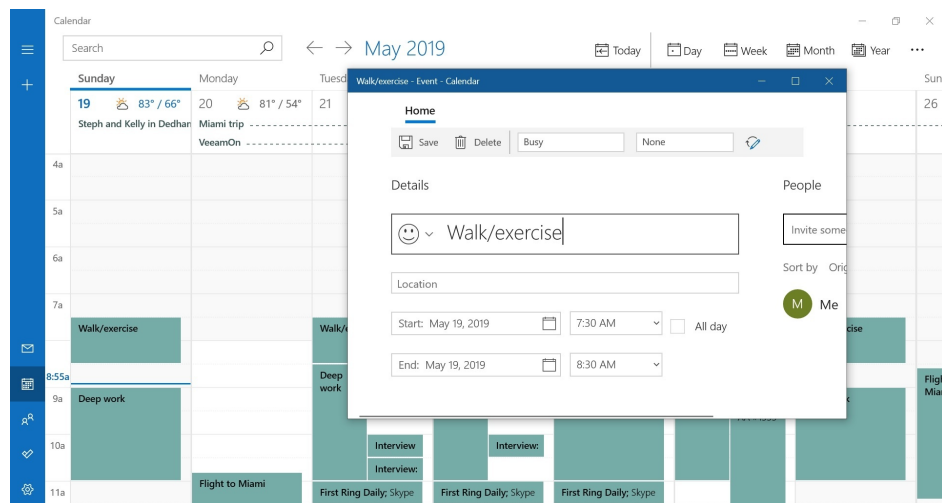
**Mouse-over the event.** If you mouse-over an event in Calendar, you will see a pop-up next to the event that displays a bit more information. A View event button will appear on individual events, but if the event is a recurring event, you will see Edit series and Edit occurrence buttons, as shown here, instead.



**Open the event.** To open an event, simply select it in any Calendar view. If the event is a recurring event, you are only viewing the event you selected. To open or edit the entire series, click the hard-to-see “Edit series” link found after the End date and time and above the Event description field.



Open the event in a new window. To open an event in a new window, select the “Open event in a new window” button, in the upper right of the event.



In addition to all the normal things you might do with a floating window, this capability also lets you use the Snap feature in Windows to position this new window side-by-side with another window (including the main calendar window) in a full screen display.

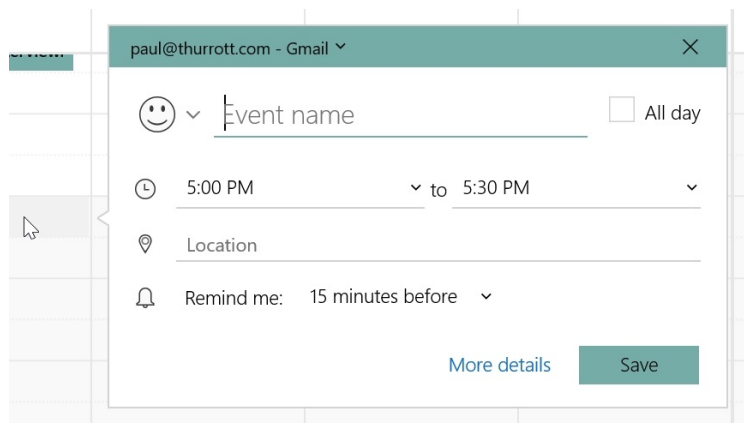


Yes, you can open multiple events, each in their own window, as well.

The information you see in each case will obviously vary from event to event and according to how much information was provided when the event was first created. Once you’ve opened an event, you can of course edit it as needed. Just select the Save button when you’re done editing.

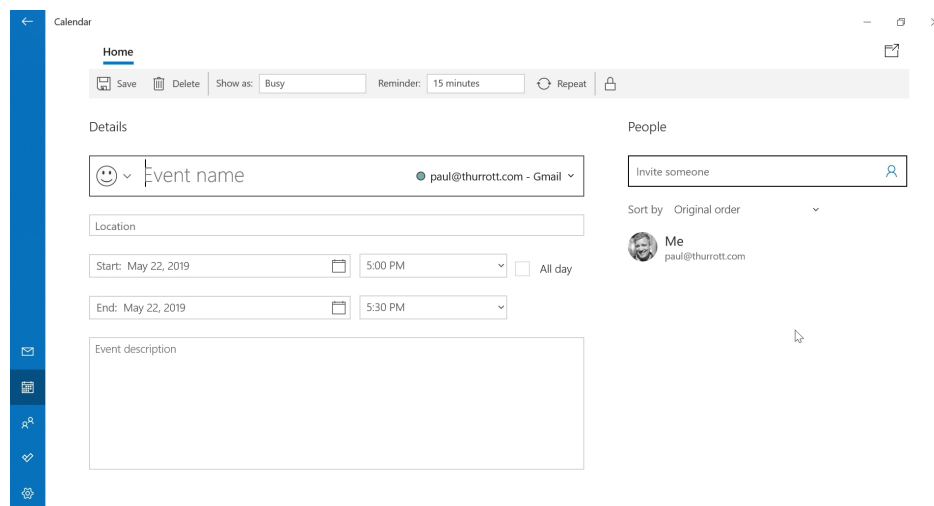
## Create a new event

To create a new event, first navigate so that you can see the day (and, in many views, the start time) of the event you wish to create. Then, select that area in the calendar. When you do so, a pop-up appears so you can enter the name, time frame, and location of the event, select a reminder time, and choose the calendar with which to associate the event.

A screenshot of a Gmail 'Create new event' pop-up window. The window has a title bar 'paul@thurrott.com - Gmail' with a close button. It contains a smiley face icon with a dropdown arrow, a text input field for 'Event name', an 'All day' checkbox, a time selector showing '5:00 PM' to '5:30 PM', a location input field, and a reminder selector set to '15 minutes before'. At the bottom are 'More details' and 'Save' buttons.

Calendar doesn't let you to select a specific day/time and then drag with the mouse to select multiple days or a specific time period. Instead, you can make an event a multi-day event later as you edit it.

From here, just enter the information you wish and then select the Save button. Or, if you want to add more information, select "More details." The new event now displays in the full app window and provides more fields for customizing the event.

A screenshot of the full 'Create new event' form in the Gmail app. The form is titled 'Calendar' and has a 'Home' tab. It includes a 'Save' button, a 'Delete' button, a 'Show as' dropdown set to 'Busy', a 'Reminder' dropdown set to '15 minutes', a 'Repeat' button, and a lock icon. The 'Details' section contains a smiley face icon with a dropdown arrow, a text input field for 'Event name', a 'Location' input field, 'Start' and 'End' date and time selectors (both set to May 22, 2019, 5:00 PM to 5:30 PM), an 'All day' checkbox, and an 'Event description' text area. The 'People' section has an 'Invite someone' input field, a 'Sort by' dropdown set to 'Original order', and a 'Me' profile card for 'paul@thurrott.com'.

This is mostly straightforward. But there are a few things you can do to events that may not be immediately obvious. These include:

**Open the new event in its own window to view it side-by-side with other information in the Calendar app or elsewhere.** As described previously, you can open the event in its own window so you can view it side-by-side with the main Calendar app window, or with other apps and windows.

**Change it to a recurring event.** You can change an event into a recurring event by selecting the Repeat button in the toolbar and then configuring the start date, frequency, and end date.

**Change it to a multi-day event.** If this event is a multi-day event, select “All day” and then change the Start and End dates accordingly.

**Make it private.** If you’re using a shared calendar at work, you can mark an event as private so that your coworkers will see that you’re busy at the time of an event, but won’t see any of the details of that event. To do so, click the Private button—it looks like a lock—in the toolbar.

**Invite other people.** If you invite one or more other people to an event using the People picker on the right, it becomes a meeting. We look at meetings later in this chapter.

**Add more information about the event.** At the bottom of this window, you will find large Event description text box into which you can paste or write a description or any other information you’d like.



You can also create a new event from the Windows desktop. This is described in the section *Create a new event from the desktop* later in this chapter.

## Delete an event

To delete an event, open it from any Calendar view and then select the Delete toolbar button. When you do, a pop-down menu appears. What you see here will vary, depending on whether the event is a standalone event or a recurring event:

**Standalone event.** Here, you will see two items, Delete and Delete event, but only the latter is a selectable option. Why the redundant and non-selectable “Delete” text in that menu? Your guess is as good as ours.

**Recurring event.** Here, you can choose between deleting just this one instance (“Delete one”) or deleting all instances of the event (“Delete all”). As with a standalone event, there is a non-selectable “Delete” option as well.



You can also delete an event by right-clicking it from any calendar view and choosing Delete (or, Delete > Delete Appointment) from the context menu that appears.

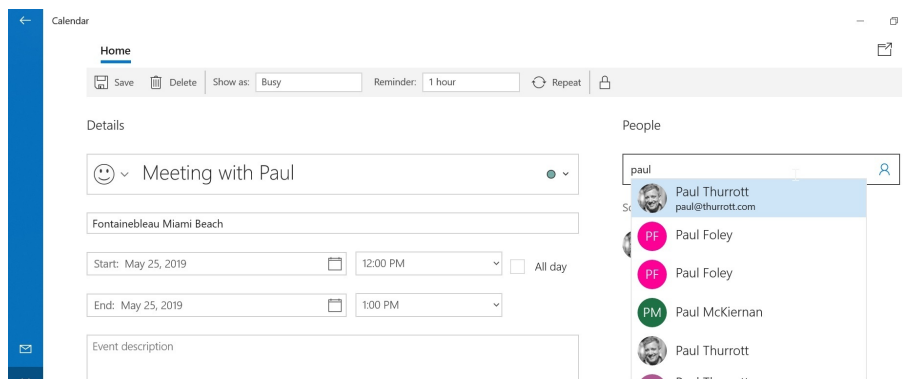
## Create and manage meetings

When you invite one or more other people to an event, it becomes a *meeting*. This change isn’t just semantics: Meetings provide a few additional features when compared to normal events.



## Invite others to a meeting

To invite others to a meeting, open or create an event and then select *Invite someone* under People. Then, begin typing the name of a person you'd like to attend. As you type, names from your contacts list that match what you're typing will appear in a drop-down list.



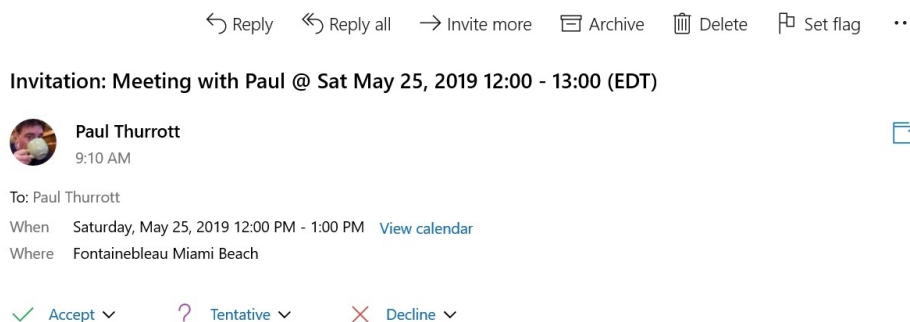
Select the correct entry to add them to the list, and repeat as necessary to add other attendees.

## Respond to a meeting invitation

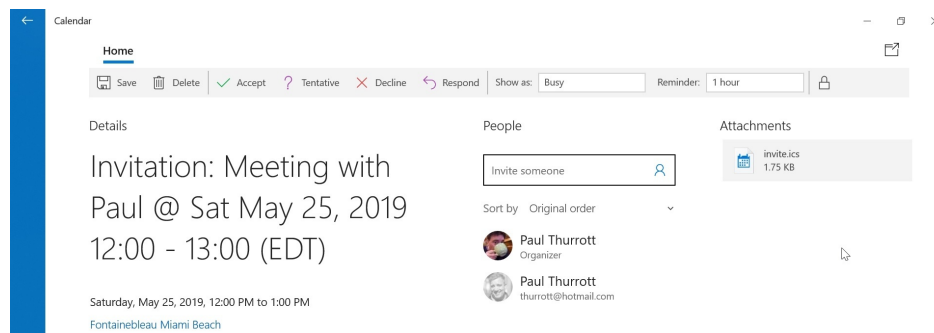
Meeting invitations are sent via email using the underlying account that is associated with the calendar you're using. So, for example, if you send a meeting invitation from a Google account, the respondent(s) will receive a Google Calendar invitation.

How these invitations are presented in email will vary somewhat from service to service. But you should see Accept, Tentative, and Decline responses—as Outlook.com defines them—or the equivalent. (Gmail, for example, uses Yes, Maybe, and No instead.)

Here is a meeting invite as displayed in the Windows Mail app.



If you accept the invitation, the meeting will be added to your own calendar. And if you open the meeting, you'll see that it's read-only—you can't change any of the information about the meeting—and that the person who sent the email is listed as the organizer, while you are one of the attendees.



There are also some new items in the toolbar: Accept, Tentative, Decline, and Respond buttons that help you alert the organizer to your status if something changes.

## Cancel a meeting

To cancel a meeting you created, right-click it in the calendar and select “Cancel” from the context menu that appears. (Or, open the meeting and then select Cancel in the toolbar.) Calendar will prompt you to optionally provide an explanation to invitees about the cancellation.

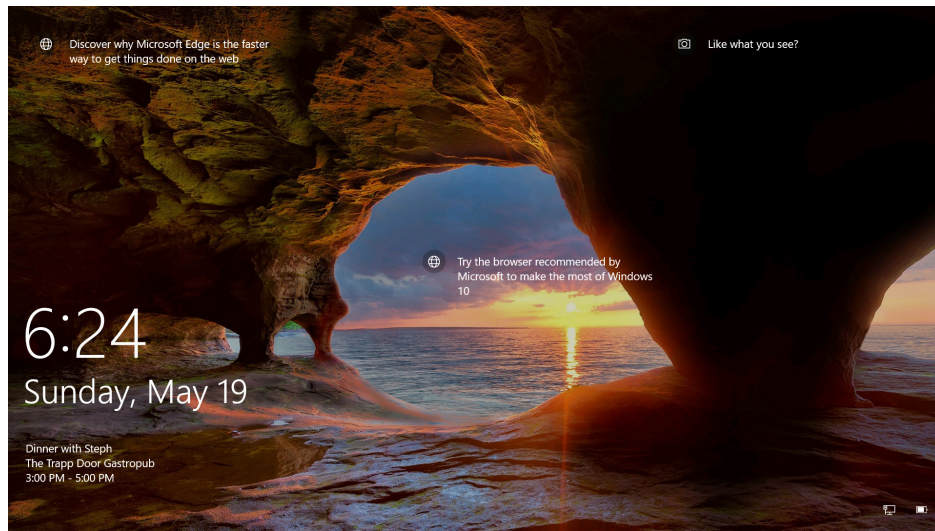
## Access events from outside the Calendar app

While you can use the Calendar app to add and manage events in your online calendars, you will often interact with those events from outside the app. That’s because you can access Calendar-based events from throughout Windows.

The best part? The Calendar app does not have to be running for any of this to work.

## See what’s happening next from the lock screen

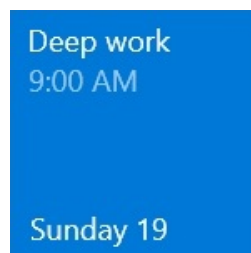
The Windows lock screen displays the time, date and a set of notifications, the latter of which includes a string of quick status notifications plus a single detailed status notification that appears at the bottom. By default, Calendar is configured to provide the detailed status notification, which will display your next event in the lower left of the lock screen.



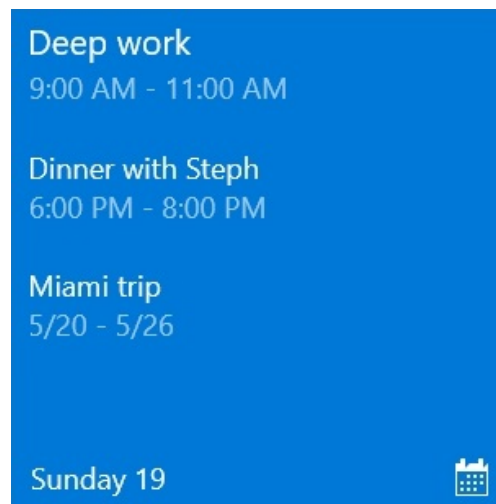
If Calendar is not configured this way, navigate to Windows Settings (WINKEY + I) > Personalization > Lock screen and select Calendar under “Choose one app to how detailed status on the lock screen.”

## See what's happening next from Start

If you have pinned the Calendar tile to Start—it's pinned by default—you can view your next event(s) at a glance simply by opening Start.

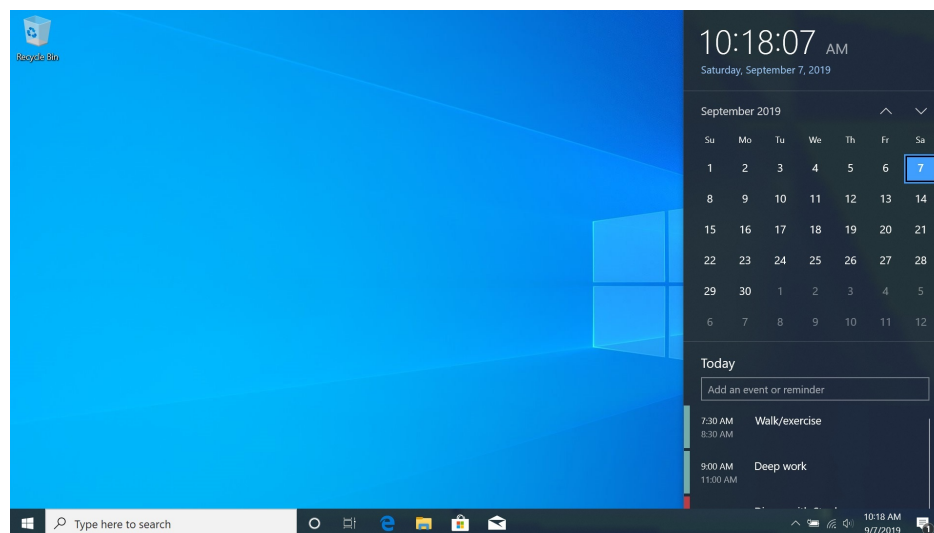


Remember that you can resize this tile to a larger size to view more events.



## See what's happening next from the desktop

To view a detailed agenda, select the Date/time display in the taskbar's Notification area. A fly-out panel will appear, displaying the current month and a scrollable list of your next several Calendar events.



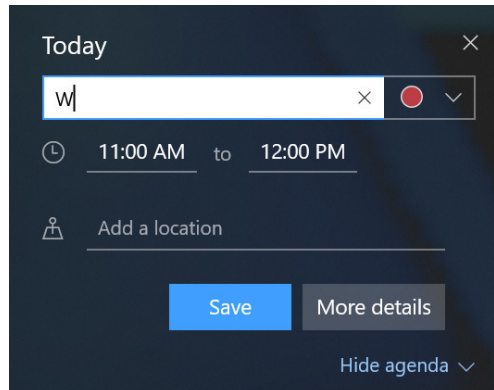
Select any event in the list to view it in the Calendar app.



If you don't see a list of events, select the "Show agenda" link.

## Create a new event from the desktop

You can create a new event from the desktop, too: Select the Date/time display in the Notification area of the taskbar, as noted above. Then, select the “Add an event or reminder” field and begin typing a name for the event. When you do, several new fields appear.

A screenshot of the Windows 'Today' taskbar widget. The widget has a dark blue background. At the top, it says 'Today' with a close button (X) on the right. Below this is a text input field containing the letter 'W'. To the right of the input field is a red circle icon and a dropdown arrow. Below the input field is a time selection area with a clock icon, '11:00 AM', 'to', and '12:00 PM'. Below the time selection is a location selection area with a location pin icon and the text 'Add a location'. At the bottom are two buttons: 'Save' (blue) and 'More details' (grey). In the bottom right corner, there is a link 'Hide agenda' with a dropdown arrow.

These include:

**Calendar.** Select this dropdown to choose the calendar that will be associated with the event.

**Start time.** Here, you can enter a start time for the event.

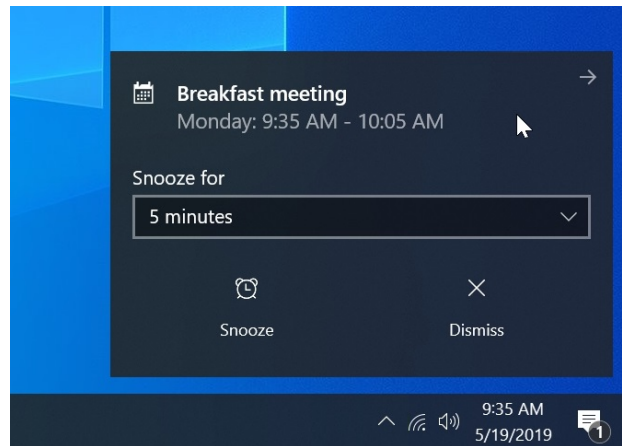
**End time.** Here, you can enter an end time for the event.

**Location.** Select the “Add a location” field if you wish to associate a location with the event.

The assumption here is that the event you’re creating is for today. If you need for this event to happen in the future, or if there are other changes you need to make, select the More details button launch the Calendar app. Otherwise, select Save.

## Handle Calendar notifications

Using the schedule established by the Reminder field in each of the events you’ve created, Calendar will display a pop-up notification banner in the lower right corner of the screen to remind you before an event starts.



This type of notification is interactive, and you can take a surprisingly long list of actions on the event it references. Available choices include:

**View the event.** It's not particularly obvious, but you can also tap or click on a blank part of the notification to display the event in the Calendar app.

**Snooze.** You can “snooze” the event reminder and display it again in 5 minutes, 15 minutes, 1 hour, 4 hours, or 1 day.

**Dismiss.** Select this button to dismiss the notification and disable future reminders for this event.

**Move the notification to Action Center.** If you mouse over the notification, that arrow in the top right will appear; select it to move the notification to Action Center. This isn't the same as dismissing it, as you can at any later time open Action Center and take action on the notification.

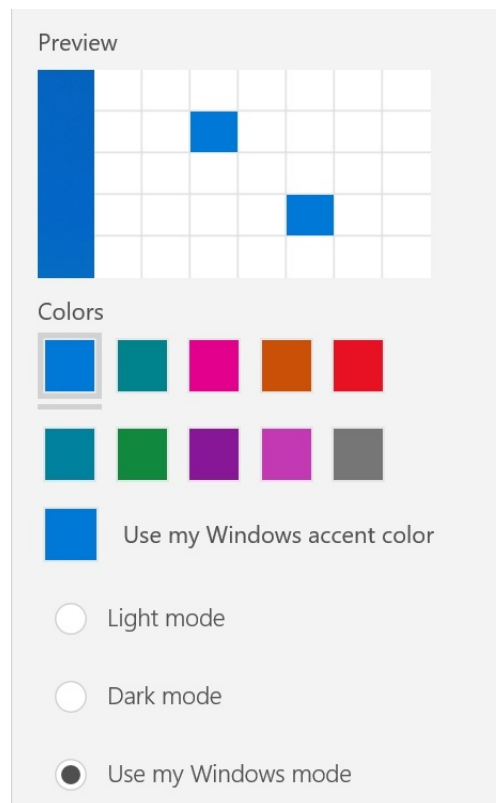
**Alert the other meeting attendees you'll be late.** If the reminder is for a meeting, an “I'll be late” button lets you alert other attendees that you're running late.

## Customize Calendar

You can customize the behavior of Calendar using the app's settings interface. Some other Calendar options can also be found in the Windows Settings app as well.

### Personalize the look of the Calendar app

In Calendar app settings > Personalization, you can configure three options that can together dramatically alter the look and feel of the Calendar app: The accent color, app mode, and app background.



Calendar's accent color option determines whether the app uses the system-wide accent color or a custom, app-specific color of your choice.



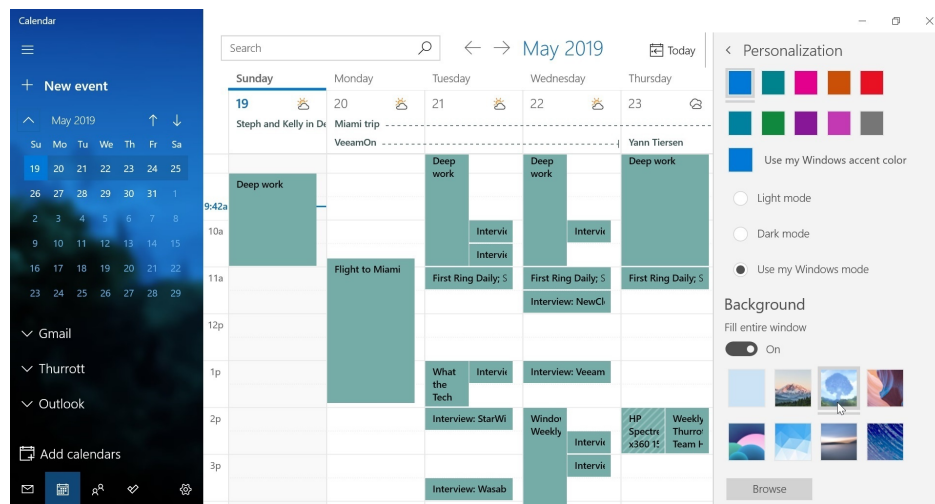
You configure the system-wide accent color by navigating to Settings (WINKEY + I) > Personalization > Colors > Choose your accent color.

The app mode is what most people think of as a *theme* and it can be set to Light or Dark, or to use the system-wide app mode.



You configure the system-wide app mode by navigating to Settings (WINKEY + I) > Personalization > Colors > Choose your color.

Somewhat unique among the apps that come with Windows, Calendar can also be configured to use a background picture, though you can't typically see much of it. To configure this option, visit the Background section of Personalization, enable "Fill entire window," and then select the image of your choice.



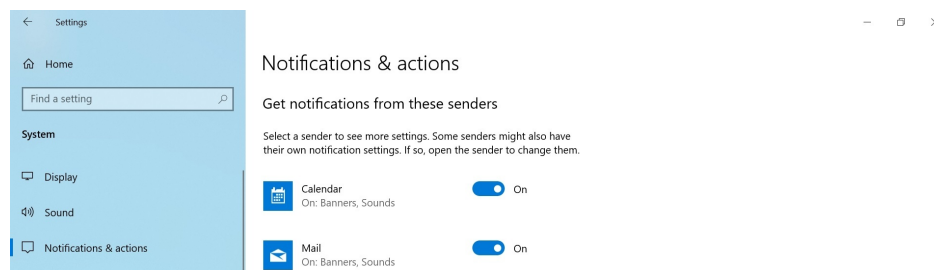
## Customize the work day, work week, and week

Calendar lets you determine which day is the first day of the week, which days are included in a work week (which impacts the corresponding calendar view), and which hours of the day are considered part of the work day. These and other related options are configured by navigating to Calendar app settings > Calendar Settings.

## Configure pop-up notification banners

Like other Windows apps, Calendar uses pop-up notification banners to display reminders, in this case about upcoming events. This is enabled automatically. But if you wish to change this behavior, you can do so using the Windows Settings app: Navigate to Settings > System > Notifications & actions and scroll down to the section “Get notifications from these senders.”

To disable Calendar notifications entirely, change Calendar to Off in this list.



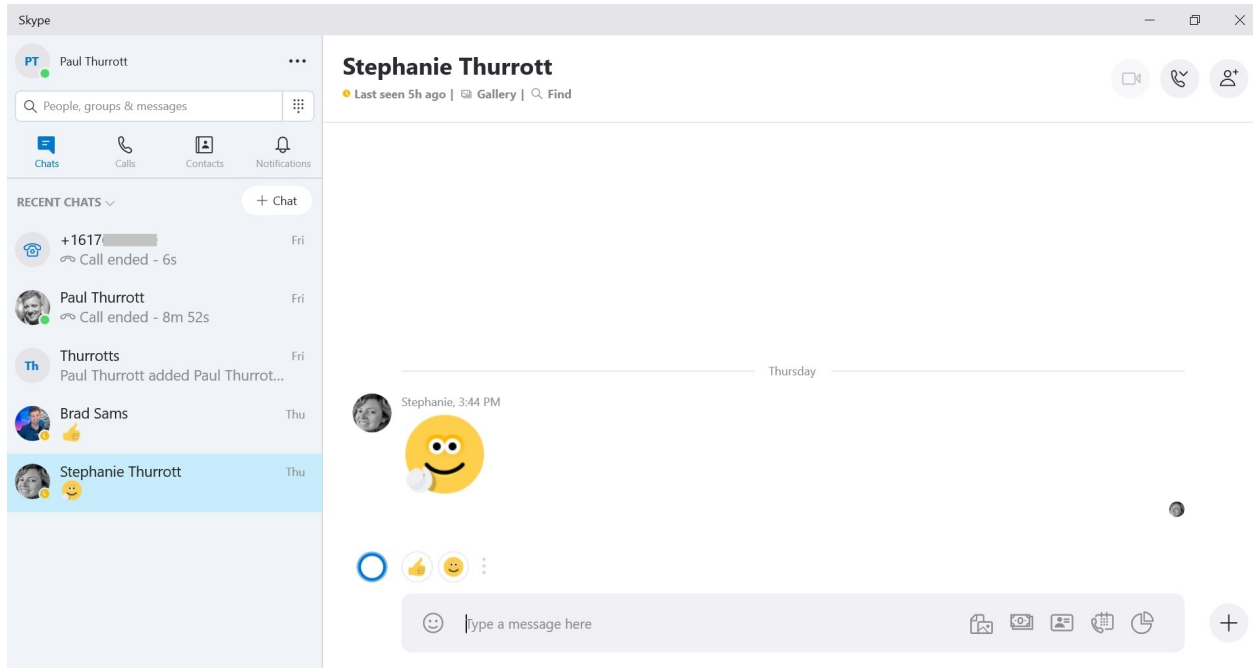
To control how Calendar notifications display, select Calendar in the list. A more complete list of Calendar notification options appears. Here, you can determine how Calendar notifies you—with pop-up notification banners, in Action Center, and with or without a corresponding notification sound—and more.





You can also configure how long notification banners appear. This, confusingly, is found elsewhere: Navigate to Settings > Ease of Access > Display. The default setting for “Show notifications for” is 5 seconds, but you can configure them to display for up to 5 minutes.

# Skype



The Skype app lets you exchange text messages, audio calls and video calls with your friends, family, and other acquaintances. You can also share photos and other files, express yourself with emojis, animated GIFs, stickers, and other embellishments, and, for a small fee, call land lines and smartphones too.



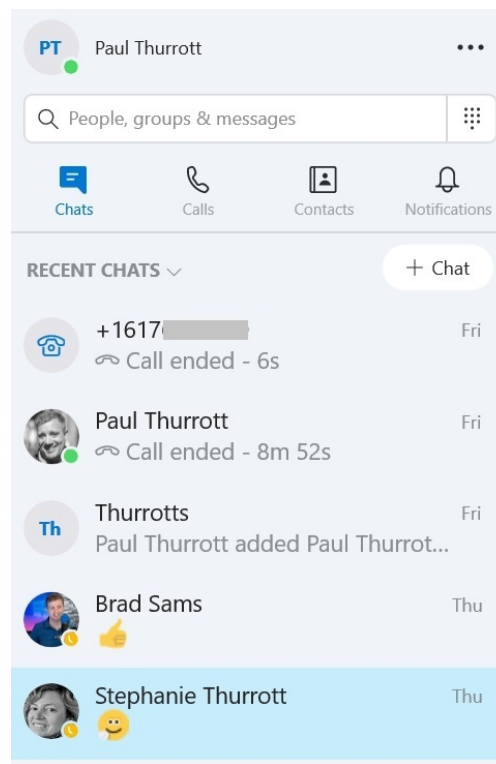
Skype is also available on smartphones, tablets, and Macs.

## Get to know Skype

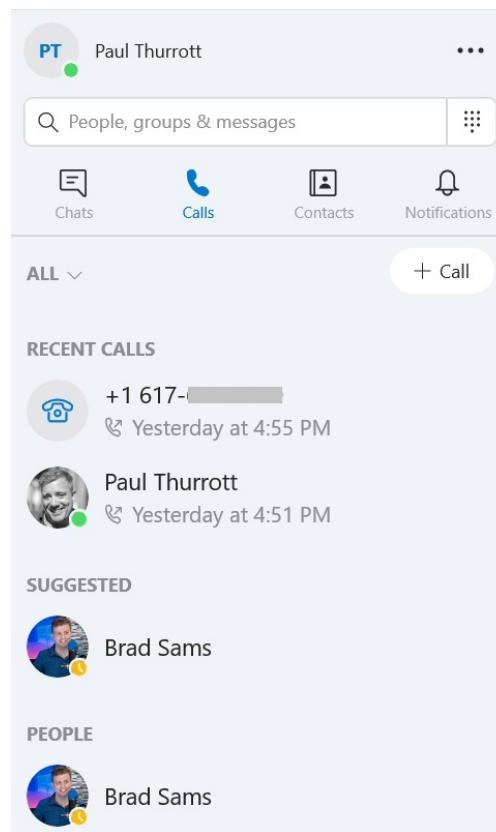
Skype is a simple-looking app, but it's bursting with functionality. The app is divided into two main areas, a navigation pane on the left and a chat pane on the right.

The navigation pane provides four views:

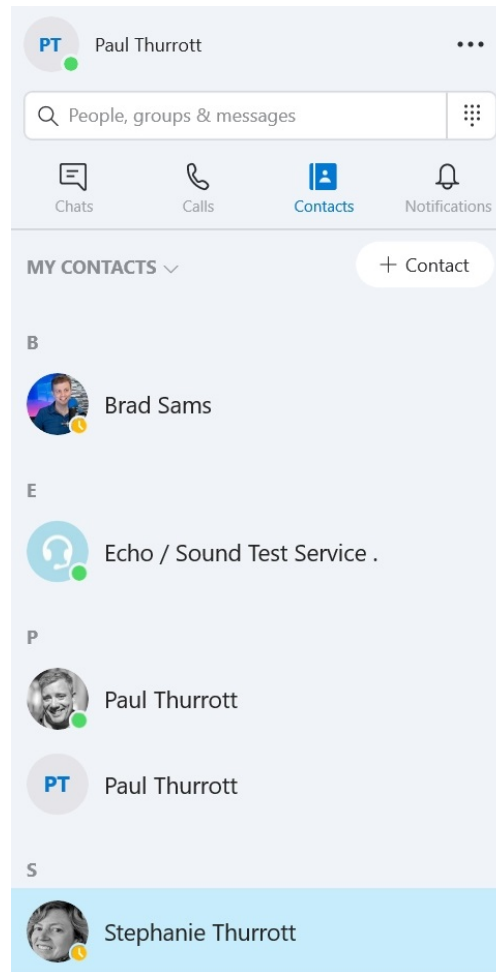
**Chats.** Here, you will a list of your recent chats by default, organized chronologically with the most recent chat at the top. You can change the sorting by selecting RECENT CHATS and choosing "Sort by Unread" if you'd like.



**Calls.** This view displays a list of all of the audio calls, video calls, and land line/smartphone calls you've made. You can filter the view by selecting ALL and choosing "Skype" to display only audio and video calls or "Phone" to display only calls to land lines and smartphones.

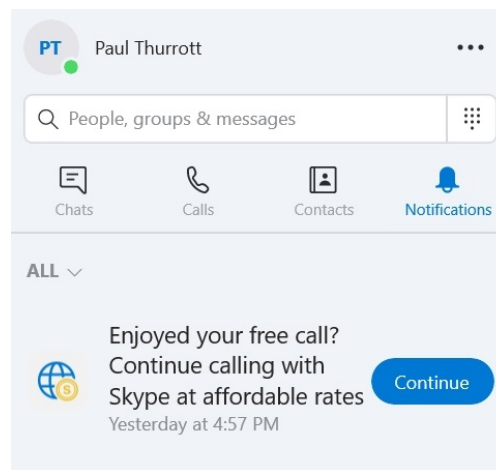


**Contacts.** This view displays all of your Skype contacts and, if enabled, all of the contacts associated with your Microsoft account as well.

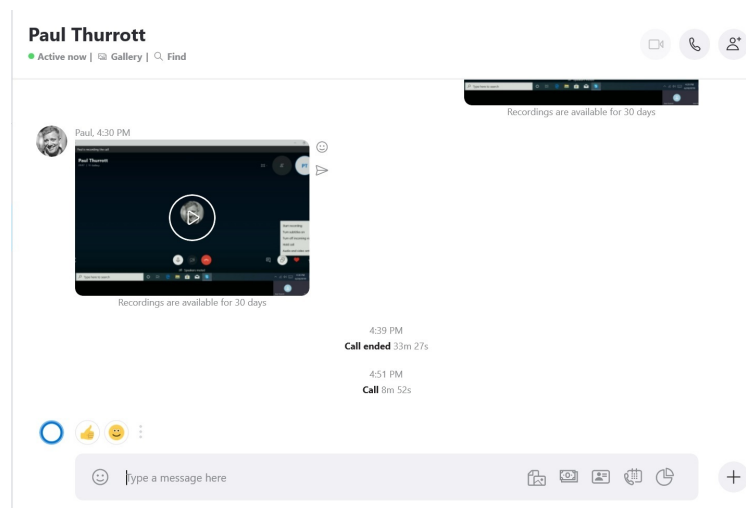


Skype allows you to mark individual contacts as favorites so that they will appear in a preferential spot at the top of this and other lists in the app.

**Notifications.** Like other Windows apps, Skype supports system notifications, but Skype provides many more notification types than most apps. If you miss any notifications—a missed call, perhaps, or a message—they will be listed here, and the Notifications header will display red circle overlay.



The chat pane on the right will change to display your conversation history as you select chats or contacts. This pane is used to send and receive messages, share files, and more.

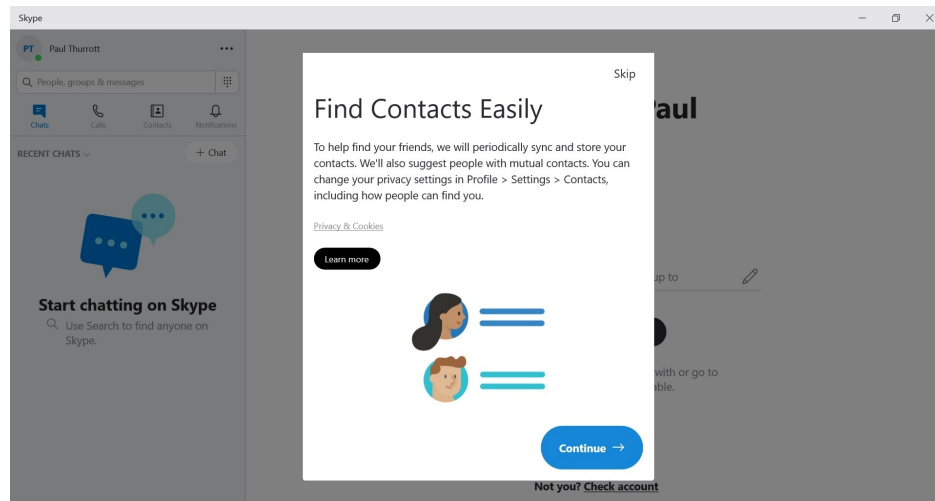


## Configure Skype for the first time

The first time you run Skype on any computer, it will step through a wizard in which you will configure how the app interacts with your contacts, your Skype profile, your microphone, and your webcam.

As noted below, all of these options can be configured or changed later if needed.

**Find contacts easily.** In the first step, you are asked to let Skype “periodically sync and store your contacts.” If you do not allow this, Skype will only be able to access contacts you’ve connected with in Skype; the contacts in your Microsoft account’s address book will be unavailable. If you do enable this feature (by choosing “Continue,” you will see your (Microsoft account) contacts in Skype, and you will see your Skype contacts in other Windows apps, like Mail, Calendar, and People.



If you skip contact sync and then later wish to configure this feature, you can do so in the Skype app. Just navigate to More (“...”) > Settings > Contacts. You’ll see a “Sync your contacts” option right at the top.

**Choose your profile picture.** In the next step, you are asked to change your profile picture, which is auto-populated if you previously set one up via your Microsoft account.



If you wish to change this picture later, you can do so in the Skype app. Just navigate to More (“...”) > Settings > Account & Profile > Profile picture > Add photo.

**Test your audio.** Here, you are asked to test the microphone and your speakers you will use with Skype. Each is initially configured to use the system default.



If you wish to change to a different microphone or speaker later, or configure Skype to use a different audio device, you can do so. Just navigate to More (“...”) > Settings > Audio & Video.

**Test your video.** In this final step, you are asked to test that your webcam is working properly with Skype.



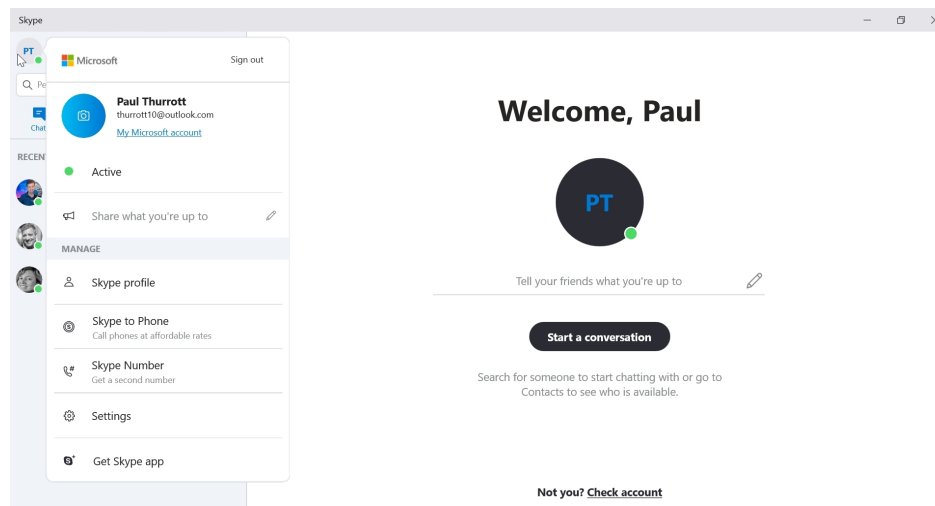
If you wish to change to a different webcam later, you can do so. Just navigate to More (“...”) > Settings > Audio & Video.

Skype has many other features you can configure via its Settings interface. We discuss these as needed throughout the chapter.

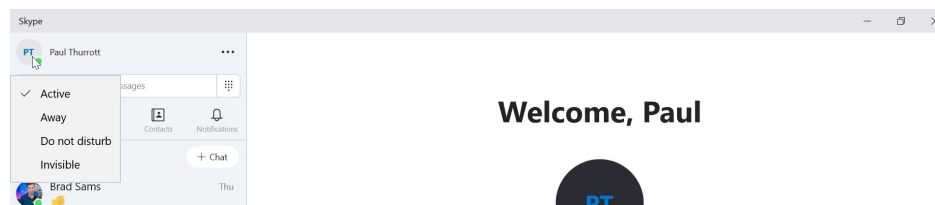
## Manage your Skype profile

You can manage various aspects of your Skype profile, including information about you that your contacts will see when they access your account through the Skype app on Windows, Mac, mobile, or web.

You can change your availability quickly by selecting your profile picture in the top left corner of the Skype app. The resulting pop-up also provides a way for you to share what you're currently doing. This status information appears under your name when your contacts view your profile.

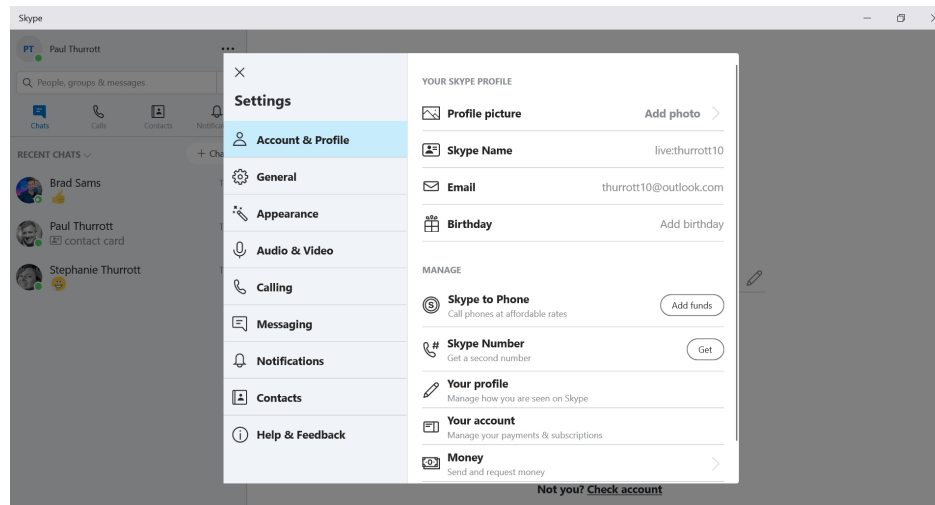


To change your availability even more quickly, select the little green availability overlay in the lower right of your profile picture and then choose accordingly from the pop-up menu that appears.

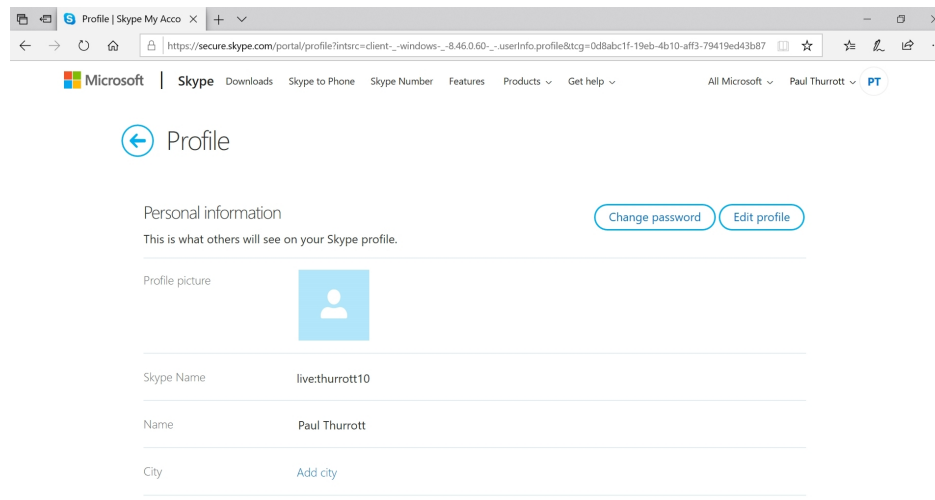


You can also access and edit some account and profile information in the app's Settings interface.





But the most complete Skype profile interface is available on the Skype website. The easiest way to get to the correct page is to open Skype (app) Settings and navigate to Account & Profile > Your profile.

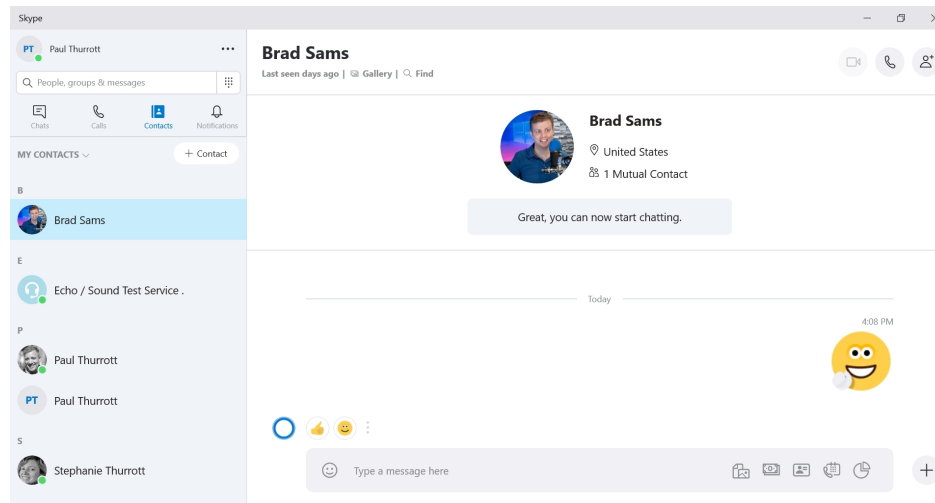


You can also access other features related to your Skype account—including adding credit so that you can call land lines and mobile phones from Skype—by navigating to Skype (app) Settings > Account & Profile > Your account.

## Manage your contacts

Skype maintains a list of people with whom you can converse. This list is called My Contacts and it includes Skype contacts, a Skype bot called “Echo/Sound Test Service” (for testing audio quality during calls), and, if you enabled it, any contacts you have associated with your Microsoft account.

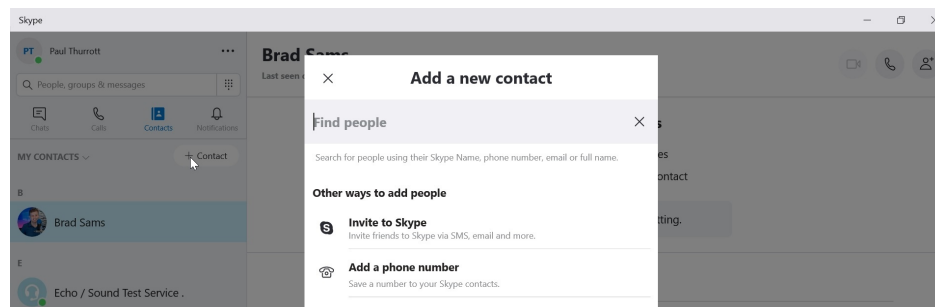
You can view My Contacts by selecting the Contacts icon in the app’s left pane.



Each contact is denoted by a small circular green, yellow, or red overlay that indicates that contact's availability. A green overlay means that the contact is active (online and available). Yellow means they are away. And red means “do not disturb” (they are busy).

## Add a contact

To add a new contact to Skype, navigate to Contacts and select the Add Contact (“+ Contact”) button. The Add a new contact window that appears lets you enter a specific Skype username, if you know that, invite someone to Skype using their email address, or add a contact using their phone number.



In each case, the person you are trying to reach needs to accept the invitation before they are added to your Skype contact list.

## Manage contact information

If you right-click on a contact, you will see the following three options:

**Add to favorites.** Like Microsoft Edge, Skype allows you to configure favorites, in this case, favorite contacts. When you mark a contact as a favorite, that person will appear before the alphabetical list of your other contacts in both the Chats and Contacts views. That can be handy if you have a lot of contacts but only interact with a few of them regularly.

**View profile.** This option displays a window that is brimming with functionality. You can interact with the contact in various ways—by sending a message, starting a call, and more—and view information in their profile—like their mobile phone number, location, and birthday—that they’ve made available to their Skype contacts.

**Edit contact.** Here, you can edit information about that contact as it appears in your Skype only. (That is, you cannot edit another contact’s profile image for them or everyone else with which they converse.) For example, you could rename the contact “Paul Thurrott” to just “Paul” or whatever other name you prefer.

## Delete or block a contact

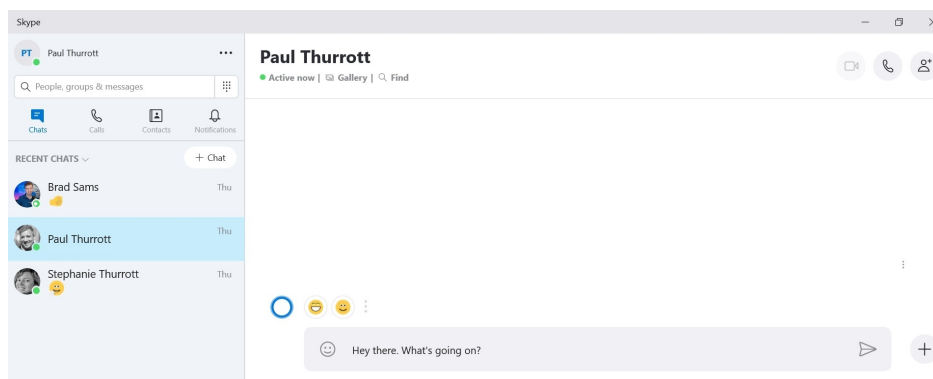
If you no longer wish to interact with a contact via Skype, you can delete the contact at any time. To do so, right-click the contact in Contacts, select “Edit contact,” and then select “Remove from contact list.”

If you are harassed by someone on Skype and wish to prevent them from even viewing your public Skype profile, you can follow the same steps and choose “Block contact” instead.

## Send and receive Skype messages

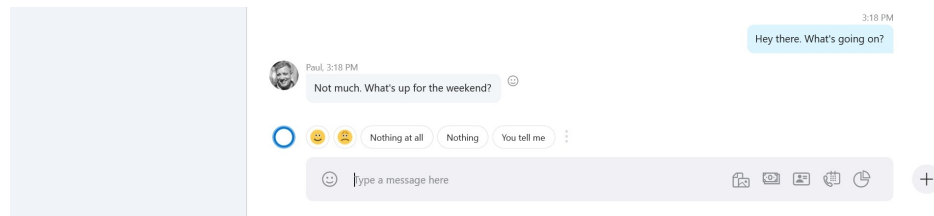
Skype is all about communicating with your friends, family, coworkers, and other acquaintances. The most common Skype activities are straightforward and will be familiar to most users. These include:

**Send a message.** A typewritten *message*, similar to the text messaging you use on your smartphone, is the most basic form of communication you can engage in with Skype. To send a message, simply select the contact with which you’d like to converse in the Chats view and then start typing in the message box on the right.

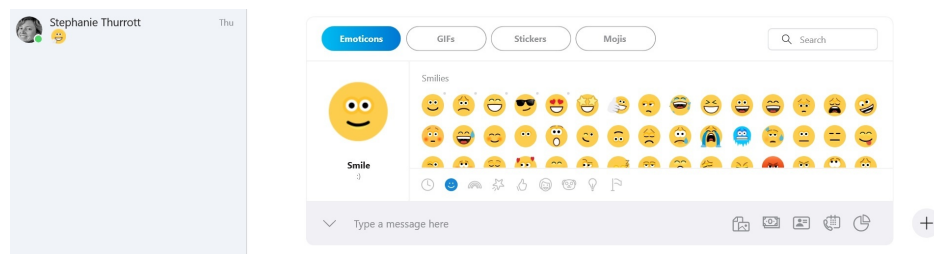


**Respond to a message.** When you receive a chat, that conversation will move to the top of the Chats view and Skype will provide you with some automatically-generated answers (including some

hopefully appropriate emoticons), above the message box. You can select one of those or just keep writing.

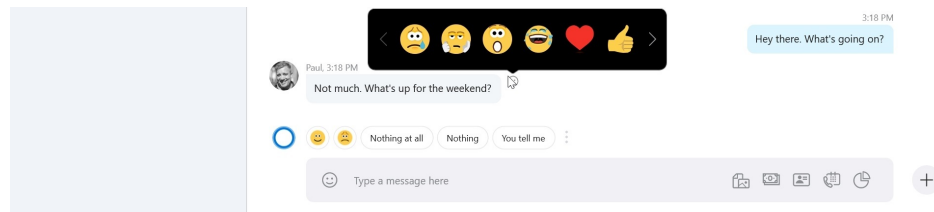


**Use emoticons, GIFs, stickers, mojis.** If you want to get creative, you can select the Happy Face icon to the left of the message box to open the Expression picker. This interface lets you choose from a wide range of emoticons, animated GIFs, stickers, mojis (which are essentially animated emojis) to add to your conversation.

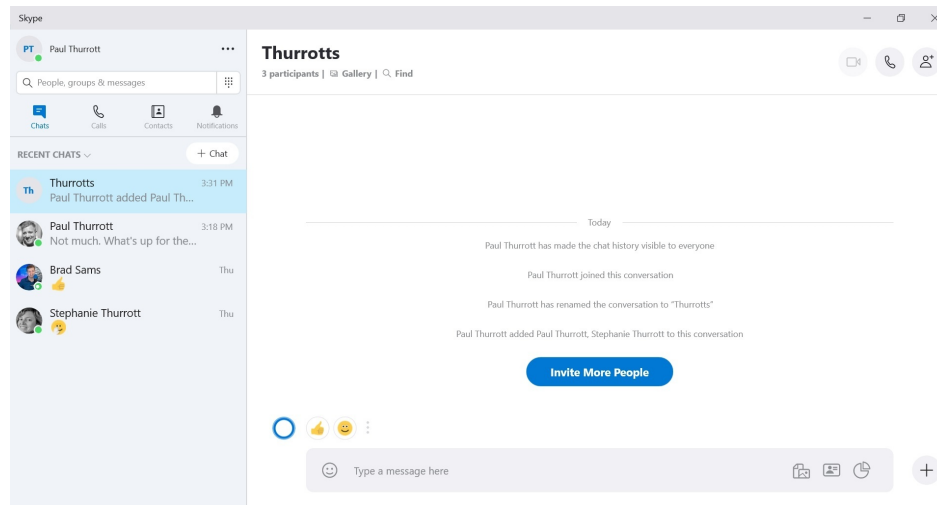


Use the Expression picker's search box to find the perfect emoticon, GIF, sticker, or moji for your mood.

**React to a message.** Skype also lets you send an inline *reaction* to a message. To do so, select the little Happy Face icon next to any chat bubble in the message view. Then, select the reaction you wish to send.



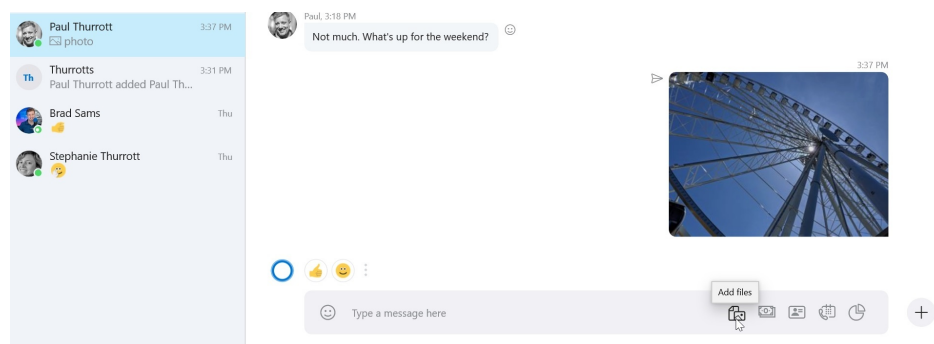
**Engage in a group chat** While many of your Skype conversations will be with a single contact, you can add up to 300 contacts to a *group* so you can engage in *group chats*. To create a group, select the Chat (“+ Chat”) button at the top of the Chats view, select “New Group Chat” from the pop-up menu that appears, name the group, and then select the contacts you want to appear in the group. Groups appear alongside individual contacts in the Chats view and otherwise work like normal chats.



To get someone's attention in a group chat, you can use an @mention (read as "at mention"). For example, to direct a comment at someone named Paul, just type *@paul*. Skype will autocomplete contact names as you type.



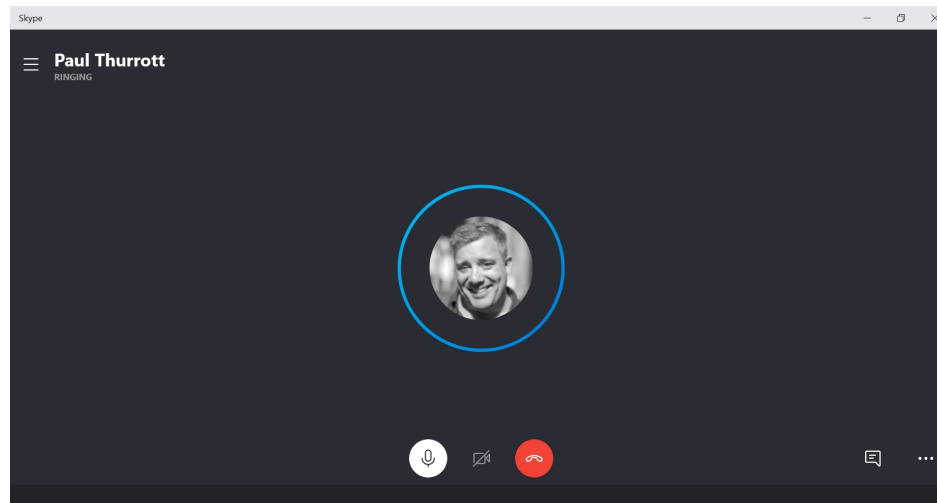
**Share content and do more with your contacts.** Skype lets you share files with your contacts—and perform other tasks, like send money, send a contact card, schedule a call, or create a poll—using the icons in the right of the message box. For example, to share a photo, select the Add files icon, use the File Open dialog that appears to find and select one or more files, and then add them right to the chat.



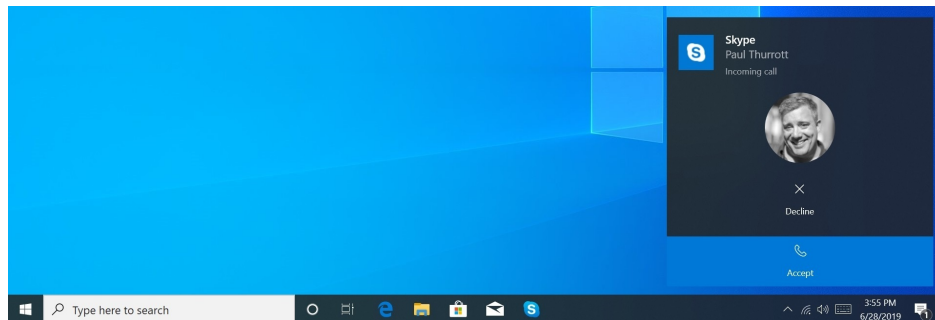
## Send and receive audio and video calls

In addition to text messages, you can also engage in chat and video calls with one to 25 of your contacts.

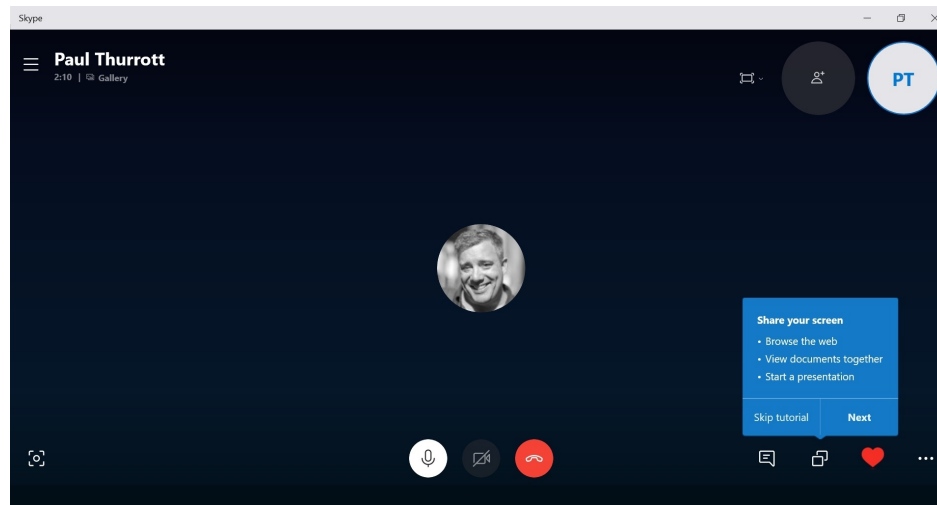
To initiate an audio call, select the contact or group with which you'd like to talk and then select the Audio Call button in the upper right of the app. Skype switches to its audio call interface and Skype will play a ringing tone similar to that of a phone ringing.



On the recipient's PC, a Skype call notification will appear, allowing them to accept or decline the call. This notification will appear regardless of whether the recipient is using Skype or some other app or Windows experience at the time the call occurs.



Once the contact—or, in a group audio call, any one contact—answers the call, the audio call starts and the participants can talk to each other as they would via phones.



During an audio call, you can perform numerous other actions:

**Mute your microphone.** If you would like to mute your microphone temporarily, simply select the Mute button. This acts like a toggle, so you can select it later to unmute your microphone as well.

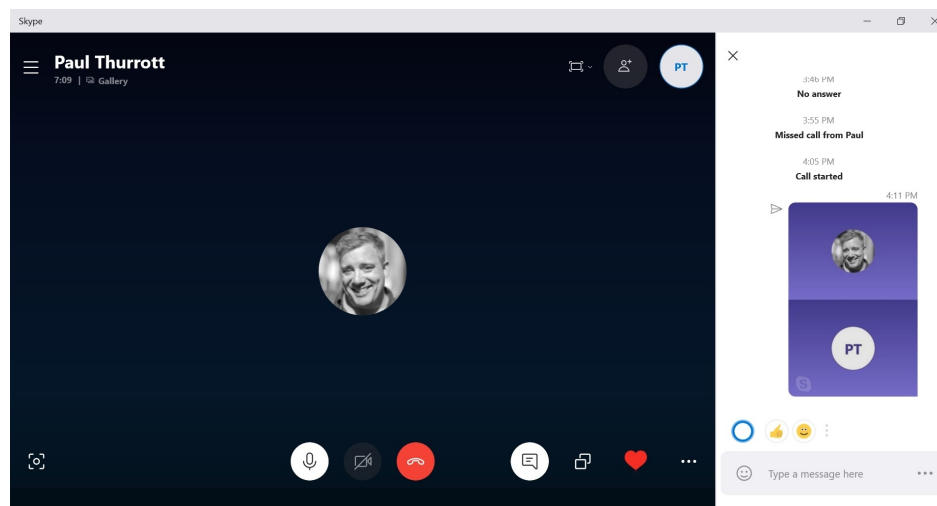
**Hang up.** The red End Call button can be used to exit the audio call.

**Switch to a video call.** You can convert an audio call to a video call at any time by selecting the Turn video on button.

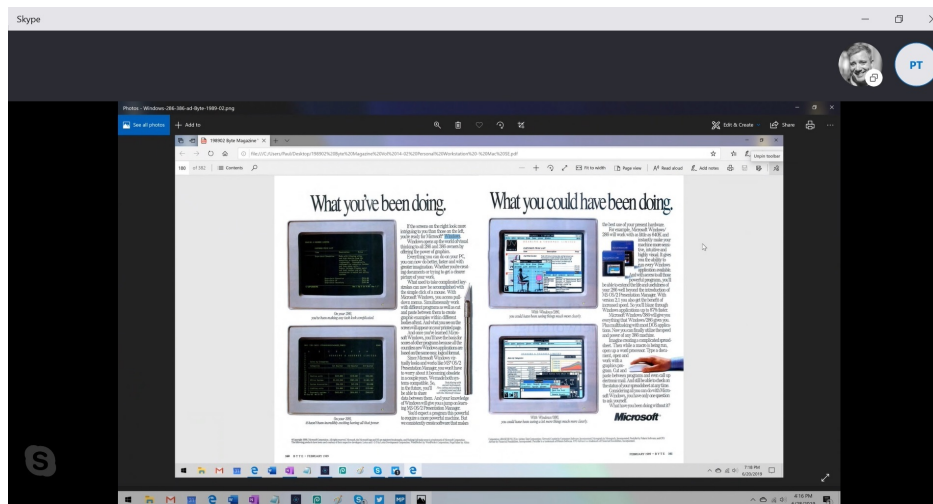


See below for information specific to video calls.

**Send messages and other items.** Select the Open Conversation button to open a normal Skype chat pane so that you can continue sending messages, sharing files, and so on while talking. This button also works like a toggle, so you can select it again to close the chat window.

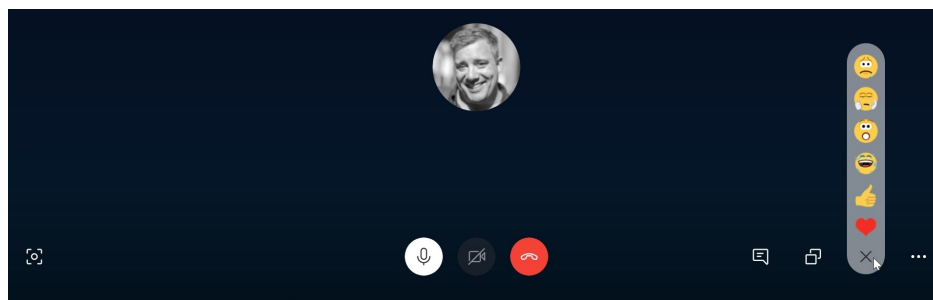


**Share your screen.** To share an application or your entire screen with the other call participant, select the Share screen button. This button also works like a toggle so you can disable screen sharing.



**Take a snapshot.** The Take snapshot button in the lower left of the audio call experience takes a screenshot of the Skype window and shares it with the other person or people on the call.

**Send a reaction.** As with Skype chats, the audio call experience lets you send a visual reaction—basically an emoticon—by selecting the Show reactions button and then choosing the reaction you want. The reaction briefly animates in the middle of the Skype app window.



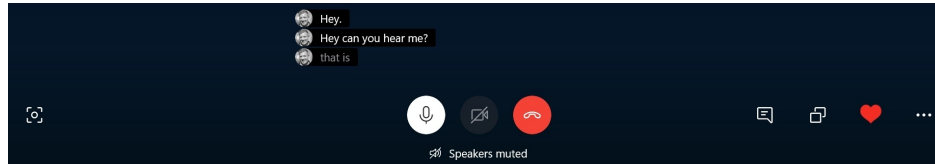
**Record the call.** The “Start recording” option in the audio call experience’s More menu lets you record the Skype call. While recording, a recording toolbar appears at the top of each participant’s Skype app window. And the person who recorded the call can end it at any time by selecting “Stop recording” in that toolbar or in the More menu.



The call recording is added to the chat and retained by Skype for 30 days. Any participant can download the recording.

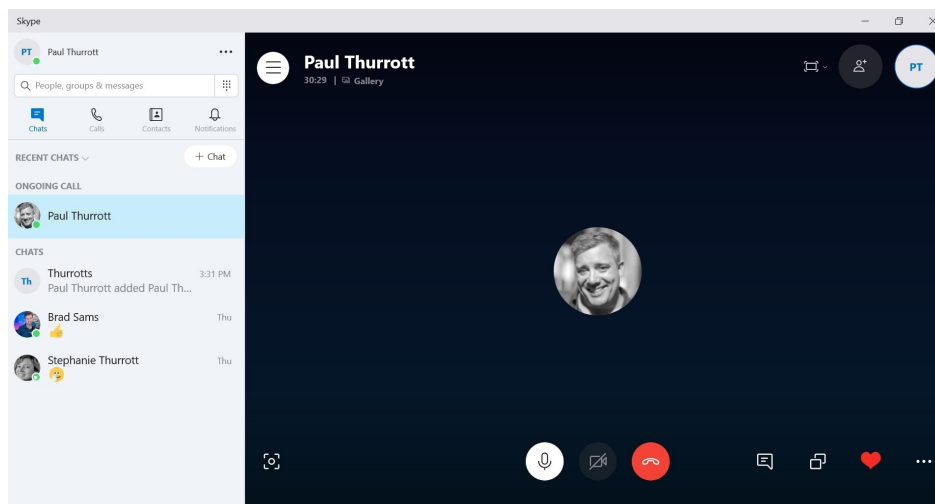


**Enable subtitles.** Skype provides a fairly amazing live subtitling feature that translates each caller's speech into text that appears in the middle of the app. To enable this feature, select More ("...") and then "Turn subtitles on." This feature also works like a toggle, so perform the same basic steps to disable subtitles too.

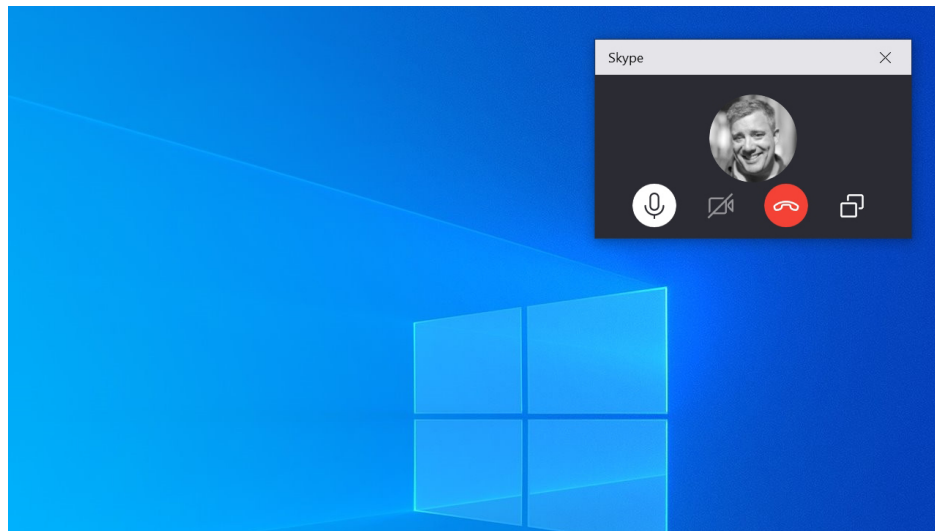


**Place the call on hold.** To place a call on hold—in effect, muting all participants, select More and then "Hold call." This, too, works like a toggle.

**Display your chats.** Select the "Open recent chats" icon in the top left of the window to display the Chats view and access other chats and other Skype features while in a call.



**Do other things.** The Skype call will continue if you minimize the Skype app or start using another application or window. While you do, a small Skype call window will appear over your other apps so you can mute your microphone, enable or disable video, hang up, or switch back the full Skype app at any time.



Video calls work similarly to audio calls and virtually every audio call feature mentioned above also works with video calls.

Of course, video calls are started a bit differently than audio calls: You select Skype's Video Call icon instead of the Audio Call button. And when a participant answers a video call, they can choose to use audio only (via the Audio button in the notification) or to use video (via the Video button).

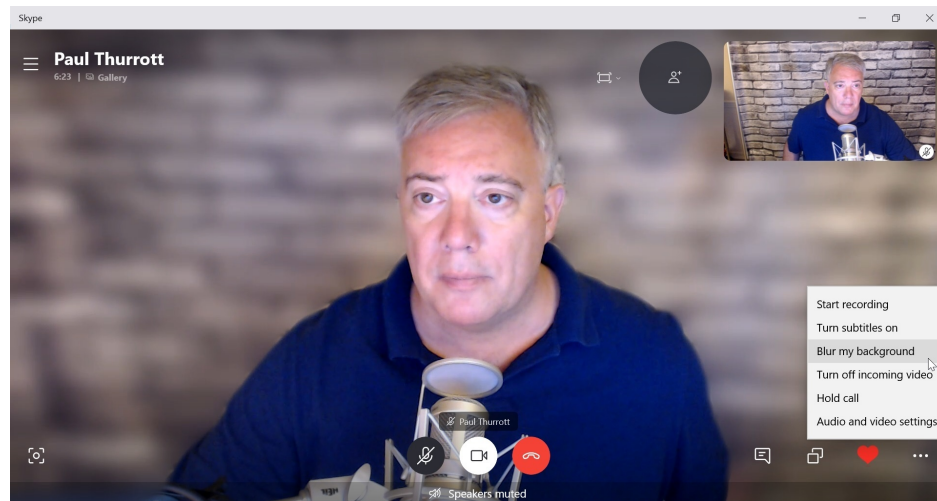
Once a video call connects, the person you're conversing with will appear in most of the Skype window, while your video will appear in a small (and resizable) picture-in-picture window in the upper right. Here, I'm making a video call with myself for demonstration purposes.



There are only a few additional actions of note when making a video call. They are:

**Turn video off.** You can disable your video at any time by selecting the Turn video off button.

**Blur the background.** You can blur your background if it will be distracting to the other participants.



## Call land lines and smartphones

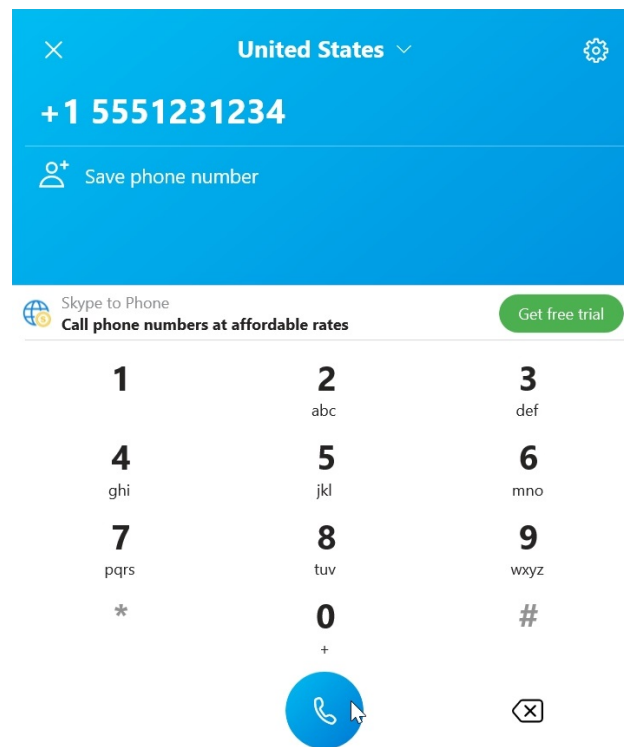
In addition to using Skype to call other Skype users on PCs, Macs, mobile, and web, you can also use it call land lines and smartphones. This feature is called Skype to Phone.

This capability isn't free, so you will need to buy Skype credit in \$5 increments (in the United States) or, if you'll be using this feature a lot, pay for a monthly subscription. You can do so via [the Skype website](#) or from the Skype app: Open Settings and navigate to Account & Profile > Skype to Phone > Add funds.



The cost of calling land lines and smartphones varies by destination but is usually very reasonable. A U.S.-based Skype user will pay 2.3 cents per minute when calling others in the U.S. International calls vary wildly based on location and the type of phone you're calling. [You can learn more at the Skype website.](#)

Once that's done, you will also want to configure other Skype to Phone features. To do so, select the Use dial pad button—it looks like a phone dial pad—to display Skype's dial pad.



Then, select the Settings gear icon in the upper right to display Calling Settings. Here, you can configure the following:

**Caller ID.** By default, Skype does not provide Caller ID information to the people you call, so it's likely that many will simply ignore your calls and assume them to be spam. To avoid this, add a valid phone number to the Caller ID option. This can be your own land line or mobile phone number. Or, you can [buy a local phone number from Skype](#) that will be linked to your Skype account.

**Call forwarding and voicemail.** By default, Skype is not configured to support call forwarding or voicemail, both of which will direct missed calls to you accordingly. But you should configure this feature to direct missed calls to voicemail, another Skype account, or to a mobile or land line number.

**Show call window when Skype is in the background.** As with audio and video calls, Skype will display a small call window when you're using other apps. This is enabled by default and is the desired behavior.

**Only allow Skype calls from contacts to ring on this device.** Disabled by default, this feature should be changed to Enabled so that you don't receive spam calls to your Skype number.

**Call subtitles.** As with audio and video calls, Skype can be configured to display automatically-generated subtitles during phone calls. And you can further configure it to only display subtitles for other participants in the call (and not for you).

**Advanced.** When you select the Advanced item, you can configure some very useful options related to answering incoming calls automatically (generally a bad idea), emergency calls, and more.

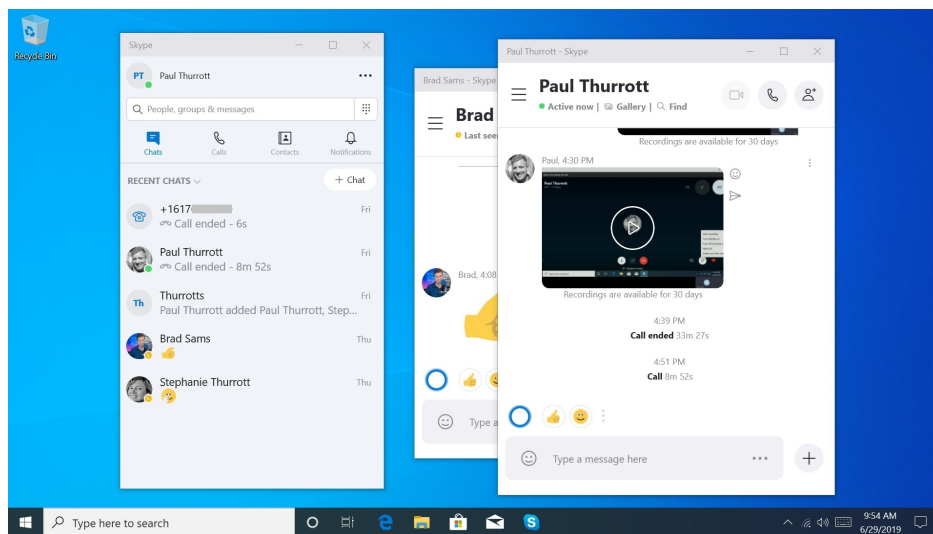
After all that one-time configuration, actually using Skype to Phone is straightforward: Simply display the Skype dial pad whenever you wish to make a phone call, dial the number, and then use Skype normally.

## Configure Skype

Skype provides a surprisingly-rich collection of options which you can configure. Most of these options are available in Skype Settings, and it's worth running through this interface at least once to consider each option. Here, we'll focus on a few that we feel are particularly important.

### Use Skype in Split View

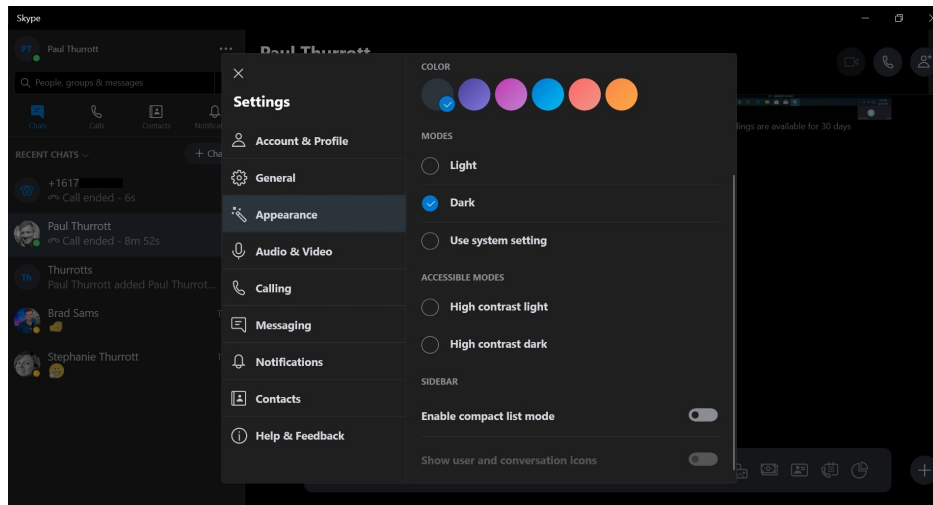
By default, Skype provides a single window experience that is typical for Microsoft Store apps. But you can optionally enable a multi-window experience in which a main Skype window—with the Chats, Calls, Contacts, and Notifications views—and each chat are displayed separately, in their own windows.



This feature is not enabled in Skype Settings. Instead, navigate to More (“..”) and select “Enable split view mode.”

### Configure the theme

Skype supports the Windows and app mode—or “theme”—color functionality in Windows, meaning that it can display in a Light or Dark mode, but you may wish to change its behavior. To do so, open Skype Settings and navigate to Appearance.



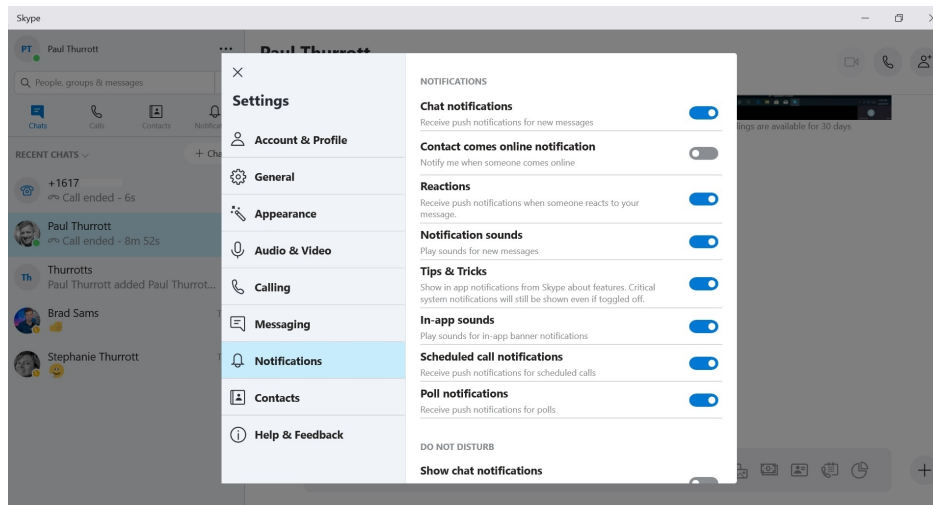
Here, you can change the app's accent color and mode—again, “theme”—to be Light, Dark, or automatically configured to match the system-configure app mode. There are also some accessibility options here and a “compact list mode” you can enable that displays more content in the Chats, Calls, Contacts, and Notifications views.

## Change the text size

In Skype Settings > Messaging, there is an option called Text size which relates to the text in chats and can be configured to Smaller, Small, Normal, Large, or Larger.

## Configure Skype notifications

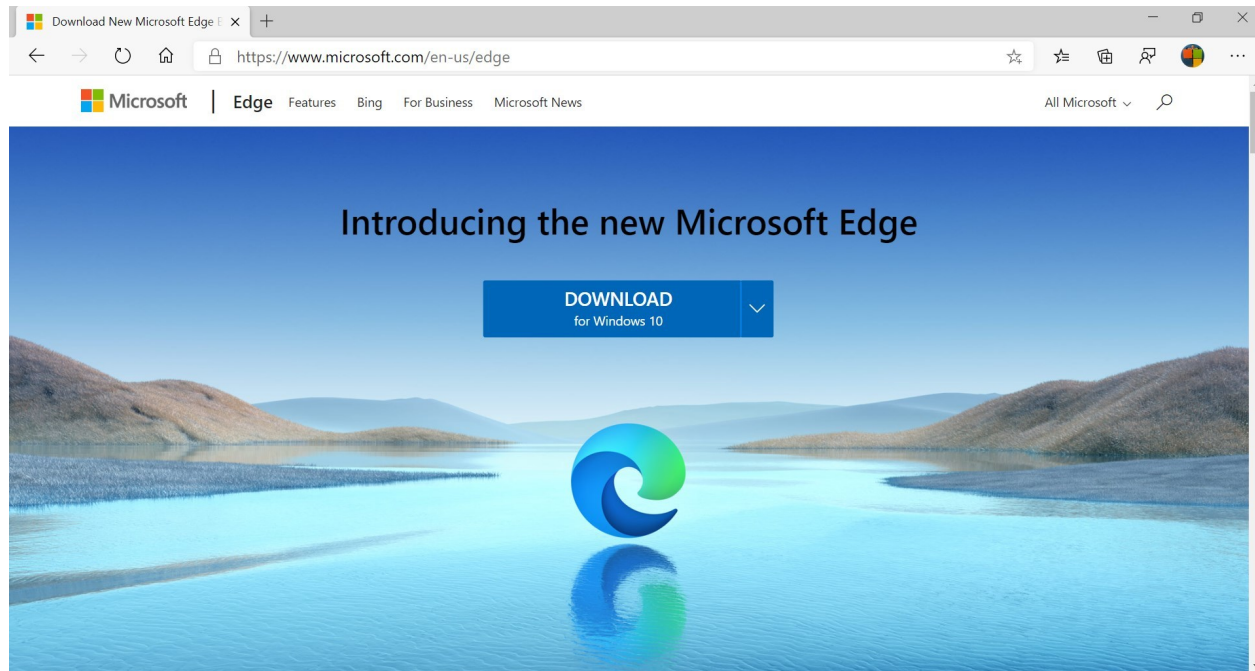
Like many Windows apps, Skype supports system notifications that can alert you when something happens, even if you're not using the app. But this functionality is particularly important for communications apps like Skype. And a bit complex, since Skype supports roughly a dozen different kinds of notifications. Which you can see by navigating to Skype Settings > Notifications.



As you use Skype, you'll get a feel for which types of notifications are useful and which are just annoying. But some of these notification types are truly superfluous, and you should consider disabling at least a few of these. And perhaps disabling notification sounds if you're sensitive to noisy interruptions.



# Microsoft Edge



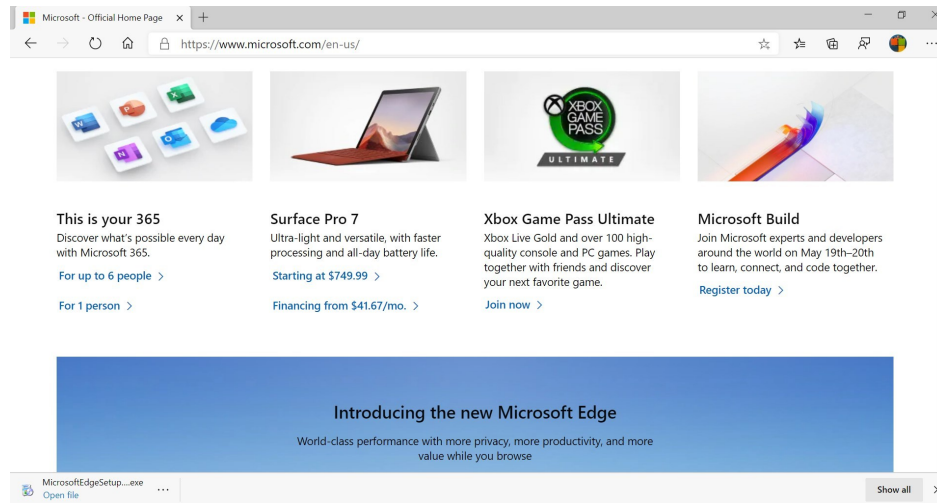
Microsoft Edge is the successor to Internet Explorer and the web browser that Microsoft now includes with Windows. As good, Edge is available on Android devices, iPhones, iPads, and Macs, too, so you can use it on all of your devices.

Here, of course, we focus on using Edge with Windows.

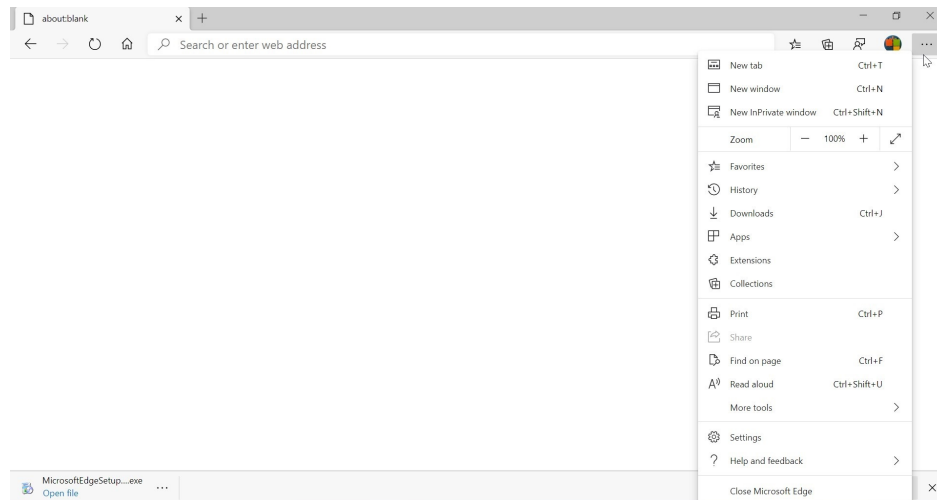
## Get to know Microsoft Edge

For the most part, Microsoft Edge looks and works much like other modern web browsers. It offers a streamlined user experience with tabbed browsing, an address bar with integrated search, and mostly-obvious access to common browser functions.



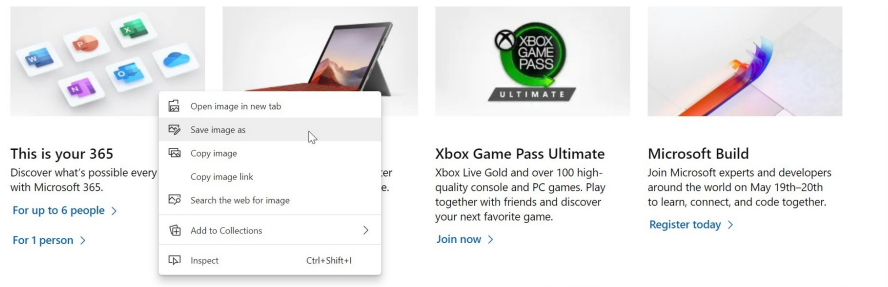


But some Edge functionality is less obvious. For example, many additional commands are available via the Settings and more (“...”) button to the far right of the toolbar. When you select this button, a menu appears.

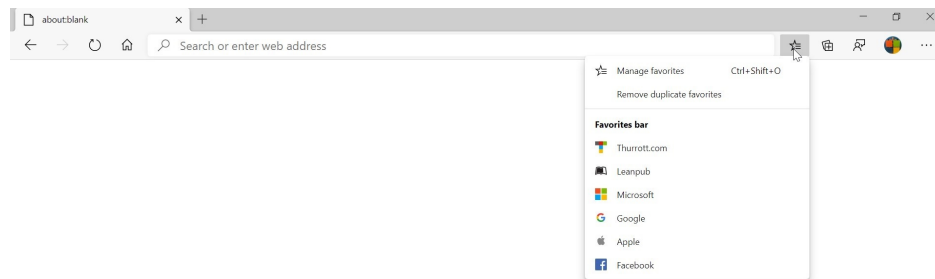


You can also type ALT + F to open the Settings and more menu. That may seem non-obvious at first, but it's the same keyboard shortcut that's used to open the File menu in many traditional Windows applications.

And it pays to right-click: Doing so with various onscreen elements—Microsoft Edge's tabs, and various items like text, graphics, and hyperlinks in web pages—will often display additional options.



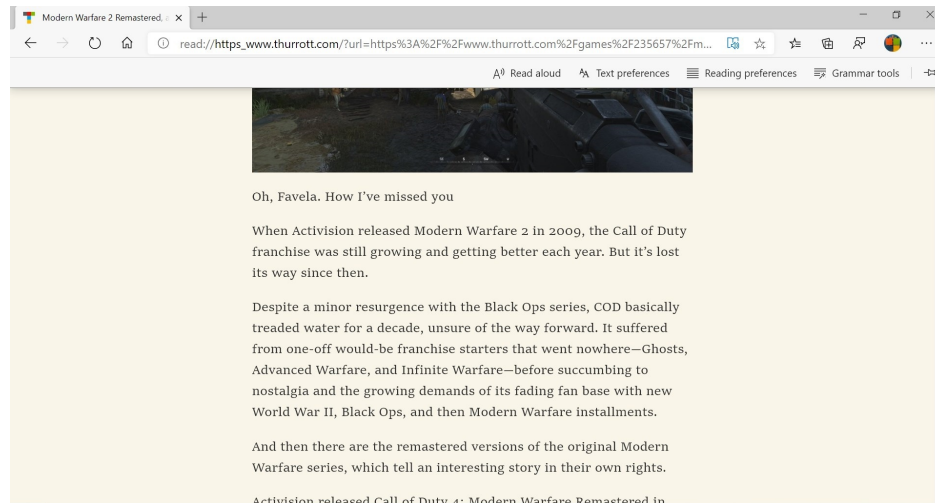
As with other browsers, Microsoft Edge provides access to your saved bookmarks—which Microsoft calls *favorites* for some reason—in a menu via a Favorites button on the toolbar.



You can customize the Edge toolbar to toggle the display of built-in buttons like Home, Favorites, and Collections to your needs. Likewise, most extensions you install will add a toolbar button too, and those can be hidden in the Settings and more menu. In most cases, just right-click the button you don't want.

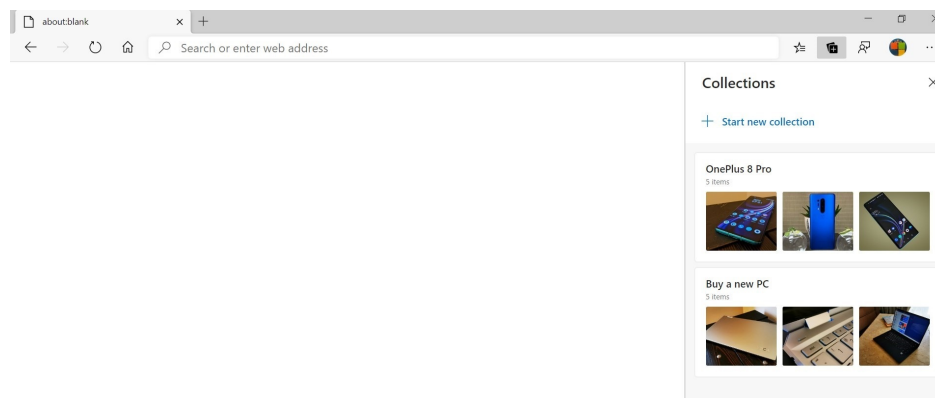
Microsoft Edge also supports a full-screen mode like other web browsers so that you can use every pixel on your PC's display. The easiest way to toggle this full-screen display mode is to type *F11*. But you can also use the Full screen button in the Settings and more menu; it resembles a double-tipped arrow and can be found to the right of the zoom options.

Microsoft Edge also provides a configurable reading view called *Immersive reader* that removes advertisements and other distractions so that you can more easily read articles and other online content. When Immersive reader is available, an icon that resembles a book will appear in the right of the Microsoft Edge address bar.



You can learn more about Immersive reader in the section *Read articles on the web without distractions* later in this chapter.

Finally, Microsoft Edge includes unique features that you won't find in other web browsers, like *Collections*, which helps you collect information you find online while doing research. This can be used for school or work projects, trip research, shopping comparisons, and more, and it is described in greater detail later in this chapter.



## Make sure you're using the new Microsoft Edge

As of this writing, Windows 10 still ships with the original version of Microsoft Edge, which Microsoft now refers to as legacy Edge. That older browser is being replaced with a new version that is based on the Chromium open source project.



Yes, *that* Chromium open source project. Microsoft Edge now uses the same underpinnings as Google Chrome, the world's most popular web browser. That means it offers the same compatibility and performance as Chrome, but because Microsoft removes all of Google's sneaky tracking functionality, the new Edge is more secure and private. It's a win-win.

But this temporary condition means that you need to download and install the new Microsoft Edge, even if you've just upgraded to the latest Windows 10 version. Doing so replaces legacy Edge, but if you were using legacy Edge previously—which is unlikely—all of your favorites (bookmarks), passwords, and some settings will carry over to the new version.



At some point, doing this manually will no longer be required and you will automatically receive the new Edge from Windows Update.

To upgrade to the new Edge, open legacy Edge and navigate to [microsoft.com/edge](https://microsoft.com/edge). Then, simply download and install the new Edge as prompted. If you sign-in to Windows 10 with your Microsoft account as we recommend, you will be signed-in to Edge as well, and can use your Microsoft account to sync favorites (bookmarks), passwords, saved form information, and some settings between your PCs and, if you use Microsoft Edge on mobile, with your smartphone as well.



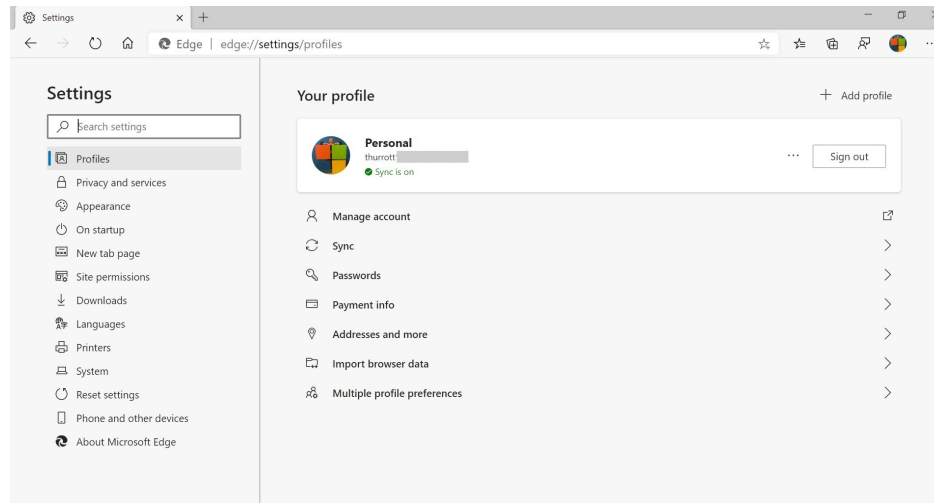
The new Microsoft Edge will soon support syncing your browser history, open tabs, extensions, and a feature called Collections as well.

## Configure Microsoft Edge

If you plan to use Microsoft Edge at all—and we highly recommend doing so—you should spend the time to really examine its many options and configure it to work the way you prefer. The first time you run Edge, you're provided with a few basic configuration options related to the new tab page layout. But there is so much more to configure.

As you might expect, most of these options are found in the app's settings interface. To find this, select the Settings and more (“...”) button in the upper right of the browser and then choosing Settings. Or, navigate to <edge://settings>

Edge settings opens in its own tab and provides multiple views, arranged in logical categories, that are accessed via the list on the left. You can also search for specific options if you can't find what you're looking for.



In the next few sections, we'll examine some of the key options you should consider configuring, here in Edge settings and elsewhere.

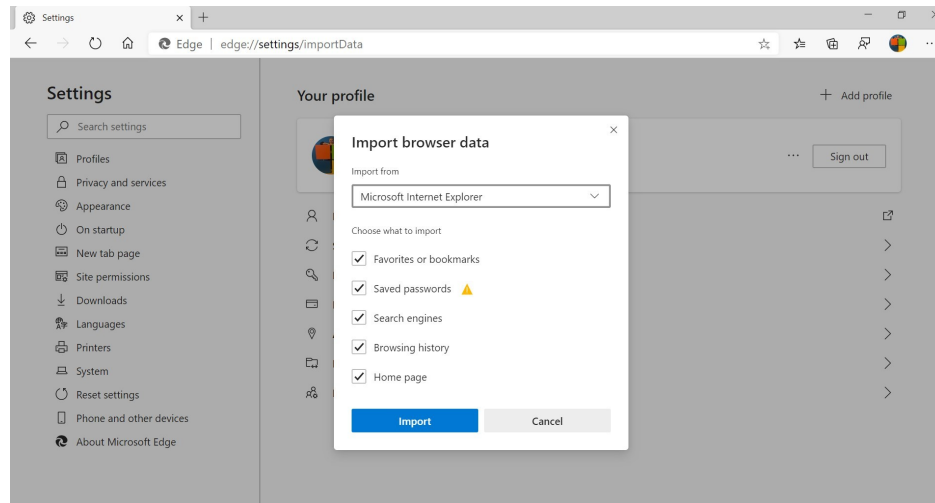
## Sign-in with your Microsoft account and sync settings

If you sign-in to Windows with your Microsoft account as we recommend, you will automatically be signed-in to Edge as well, and you will be prompted to enable sync the first time you use the browser. However, you can configure these features at any time in Edge settings > Profiles (<edge://settings/profiles>).

From this interface, you can determine which Edge features sync between PCs (and, when available, on smartphones and other mobile devices); manage your saved passwords, payment information, addresses and phone information, and more.

## Import data from another browser

If you're interested in switching to Microsoft Edge from another web browser—or perhaps you just wish to access your other web browser's bookmarks (favorites) and possibly other data, such as browsing history, cookies, saved passwords, form data, and settings in Edge—you can do so from Edge settings > Profiles > Import browser data.



To import data from another browser, that browser must also be installed on the same PC. And the import capabilities you see will vary from browser to browser, an

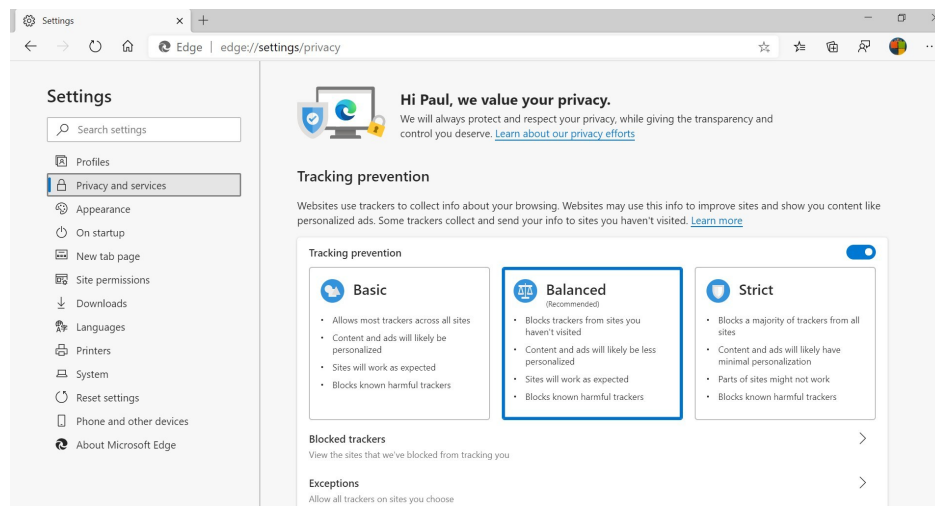
To import browser data, select the browser to import from, optionally choose which data to import, and then select the Import button.



Microsoft Edge doesn't provide an export feature for all browser data. But you can export your favorites from the Favorites interface (<edge://favorites/>)

## Configure tracking protection

Microsoft heavily promotes the privacy features in its Edge web browser to contrast it with Google Chrome, which is designed to let advertisers track its users as the browse the web. So it is perhaps not surprising that the Edge tracking protection controls are the first thing you see in Edge settings > Privacy (<edge://settings/privacy>).



As you can see, Microsoft Edge provides three levels of tracking protection:

**Basic.** In this least restrictive protection level, only known malicious trackers are blocked. This offers the highest level of functionality, but does nothing to prevent advertisers from tracking you across the web. In other words, this mode works much like Google Chrome.

**Balanced.** This default protection level blocks malicious trackers and trackers from sites you have not visited. This level offers a high level of functionality, but it won't stop websites you have visited from tracking you.

**Strict.** At this protection level, Edge blocks almost all trackers. The problem is that doing so can break some website functionality. For example, you may find that you need to sign-in to websites repeatedly.

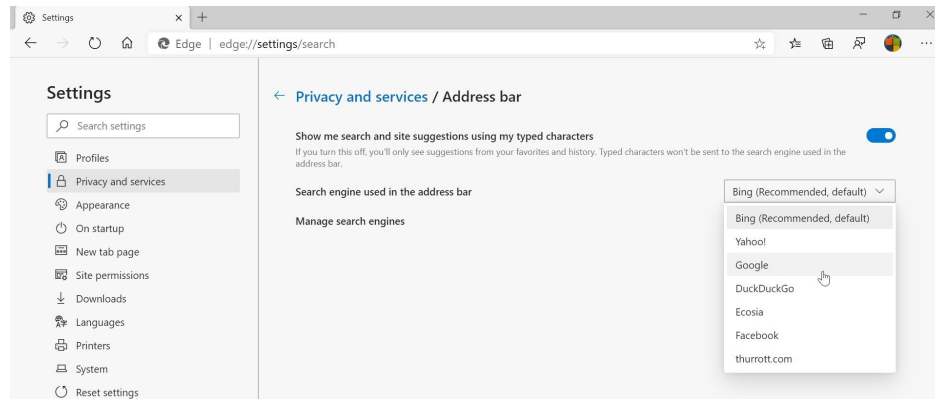


Our recommendation? Basic is too basic and strict is too strict, so we use the Balanced protection level. But we augment it with a browser extension called [Privacy Badger](#) that improves on Balanced without breaking the web like Strict. Among other things, this extension blocks trackers that are used for advertising instead of functionality.

## Change the search engine

Microsoft Edge is configured to use Microsoft's Bing search engine by default. It's really well hidden, but you can configure Edge to use the search engine you prefer instead.

To do so, navigate to Edge settings > Privacy > Address bar (under "Services"). (Or, just navigate to <edge://settings/search>.) Here, you can select Google or whatever search engine you like.



## Choose a theme

Like Windows and the modern apps with which it comes, Microsoft Edge supports an *app mode*, which can be Light or Dark. However, Microsoft Edge inconsistently refers to this app mode differently than do Windows and other apps: It uses the term *theme* instead.

To configure this feature, navigate to Edge settings > Appearance (<edge://settings/appearance>). Default theme is the first option here, and you can choose between Light, Dark, and System default (which will configure the theme to match the default app mode in Windows).



The system-wide app mode is configured by opening the Settings app and navigating to Personalization > Colors > “Choose your color.”

## Customize the Microsoft Edge toolbar

Microsoft Edge displays navigational buttons like Back, Forward, and Home to the left of the address bar and other buttons, like Favorites, Collections, Send feedback, and Profiles, plus any buttons related to extensions, to the right of the address bar. However, many of these buttons can be hidden if you don’t need them.



Back, Forward, and Profiles cannot be hidden.

In most cases, you can hide a button by right-clicking it and choosing “Hide from toolbar.” (Or, if it’s an extension button, by choosing “Move to the menu,” which will hide it in the Settings and more menu.)



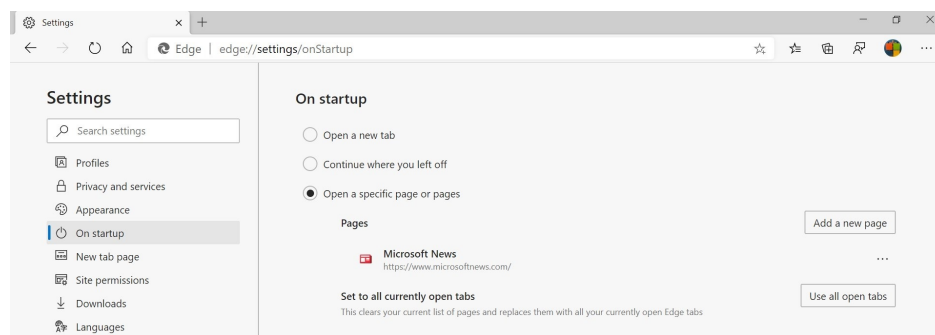


But you can also configure the display of all of the built-in toolbar buttons that can be hidden by navigate to Edge settings > Appearance (<edge://settings/appearance>) and looking under Customize toolbar.

## Configure what happens when Edge launches

By default, Microsoft Edge displays its new tab page when it is first launched. But this can be changed to display a specific page or set of pages, or, even more ideally to display whatever set of tabs you had open the last time you used the browser.

To configure this behavior, navigate to Edge settings > On startup (<edge://settings/onStartup>).



We discuss the new tab experience later in the chapter.

## Disable automatic media playback in websites

Less scrupulous websites will begin automatically playing a video or other media whenever an article or other web page fully loads. This behavior is annoying even when it happens with the volume muted. But Microsoft Edge can help you prevent it from happening ... with a few limits.

To configure this, navigate to Edge settings > Site permissions > Media autoplay (<edge://settings/content/mediaAutoplay>). Here, you will find a single option, Control if audio and video play automatically on sites.

By default, it is set to Allow. But if you change it to Limit, Microsoft Edge will start blocking media playback “based on what you’ve blocked in the past.” That is, you have to train it. You can’t just literally block all autoplay media, as you could in legacy Edge.

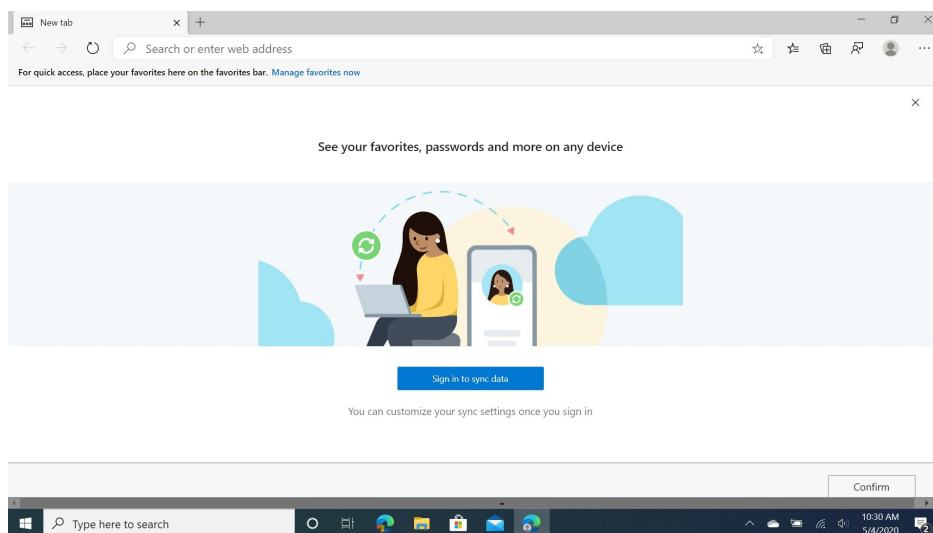


What’s our advice? For now, change this to Limit. We’re investigating whether there is a browser extension that fixes this problem universally.

## Manage multiple profiles in Edge

Microsoft Edge supports multiple *user profiles* that let you browse the web under different personas, each with its own browsing history, favorites, passwords, and other data. So in addition to the profile that is associated with your Microsoft account, you can add others. These can include profiles related to other Microsoft accounts or work or school accounts.

To add another profile, select the Profiles button in the Edge toolbar—it will display your Microsoft account profile picture if you’ve signed-in—and then Add a profile and Add. A new Microsoft Edge window will appear, prompting you to sign-in.



From here, you can choose another Microsoft account or a work or school account.



The latter account type works much like a Microsoft account but is centrally-managed by your employer or school and uses Microsoft’s Azure Active Directory (AAD) on the back-end. When you sign-in to this type of account, you’ll be asked to allow your organization to manage this device. We recommend choosing “This app only” so that your organization can only control Microsoft Edge and not your entire PC.

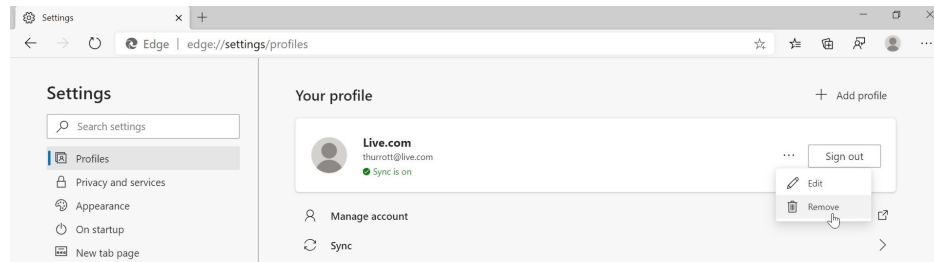
After you sign-in to your account, you are prompted to sync browser data like favorites, passwords, Collections, addresses, and more. And then you can commence with browsing in the new Edge window.

There are a few big changes when you configure two or more profiles in Edge. First, each profile uses its own window (or windows, if you choose to open more), and that window will be displayed separately on the Windows taskbar. Too, each profile will display your profile picture as an overlay on the Edge icons on the taskbar so that you can visually identify them more easily.



To switch to another profile, select the Profiles button and then the profile you wish to use.

To edit the name of a profile or remove it from your PC, open that profile, select the Profiles button, and then select “Manage profile settings.” Or, just navigate to Settings > Profiles (<edge://settings/profiles>). Then, select the More actions (“...”) button.



## Manage your favorite web pages

Microsoft Edge works much like other web browsers when it comes to saving and managing your favorite web pages. So this process should be familiar to most.

### Save and manage favorites

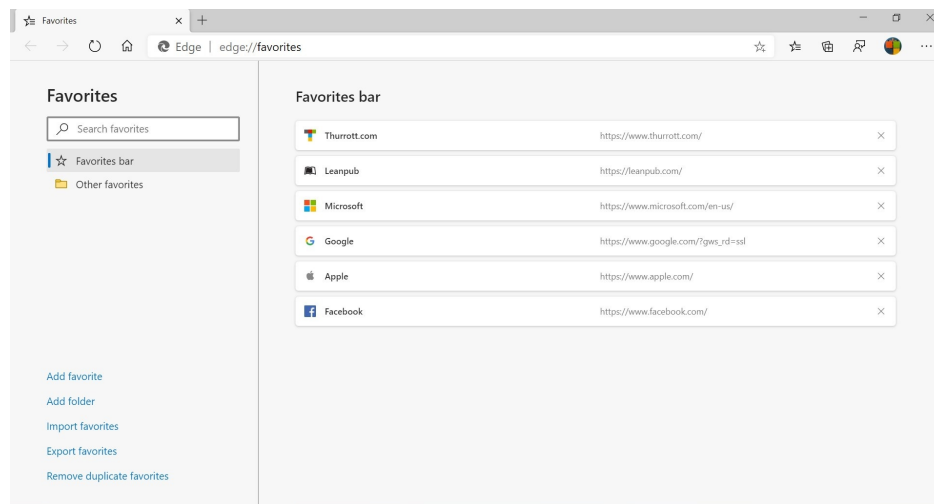
Like other web browsers, Microsoft Edge lets you save links to your favorite web pages so that you can access them more easily in the future. Unlike other web browsers, Microsoft Edge calls these links *favorites*, and not bookmarks.

As noted previously, you can view your favorites by selecting the Favorites button in the Edge toolbar to display the Favorites menu.



If the Favorites button is not visible in the Edge toolbar, open the Settings and more menu and choose Favorites there instead. In this case, Favorites will appear as a sub-menu off of the Settings and more menu.

To manage your Favorites, open the Manage Favorites interface, which is available as a link at the top of the Favorites menu or by navigating to <edge://favorites>.



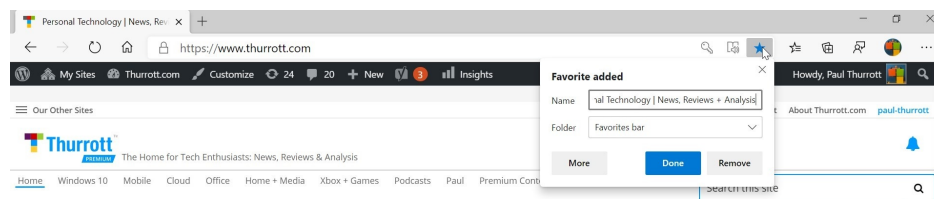
You can also open this view by typing CTRL + SHIFT + O.

Here, you can add new folders, arrange individual favorites or folders by dragging and dropping, and perform other related actions.



To edit a favorite, right-click it and choose “Edit.”

To save a favorite, navigate to a web page you like and select the (star-shaped) Add this page to favorites button that’s on the right side of the address bar. A new pane opens so you can save the favorite.



Here, you can take the following following actions:

**Rename the favorite.** Microsoft Edge will automatically use the title of the web page as the name of the favorite. But you can edit this selection to something shorter or more obvious as needed.

**Folder.** By default, Microsoft Edge will save each favorite in the root of the Favorites folder. To change the location—perhaps to the Favorites Bar or some other folder—select the Folder drop-down list and navigate through the folder tree under Save in until you find the folder you want. A “Choose another folder” link will provide access to the full list of choices and, if needed, let you create a new folder.

**Save the favorite.** Select the Done button to save the favorite.

**Call a mulligan.** Select the Remove button to cancel the save.

## Pin an often-used web page to a tab

Microsoft Edge lets you pin favorite web pages to the web browser as special mini-tabs that appear every time you open the first application window. These pinned mini-tabs appear at the top left of Edge, and to the left of the first normal tab.



To pin a page to a mini-tab in Microsoft Edge, open it in the browser, right-click the page's tab at the top, and then choose "Pin tab" from the pop-up menu that appears. You can in turn unpin a pinned tab in the same manner; just choose "Unpin tab" from the pop-up menu that appears.



To be clear, pinned tabs only appear in the first Edge window you open.



Pinned tabs reappear each time you use Edge. But if you have multiple Edge windows open and close the window with the pinned tabs *before* closing other windows, you'll lose the pinned tabs. To get them back the next time you run Edge, navigate to Settings and more ("...") > History and select the most recent item in the Recently closed list.



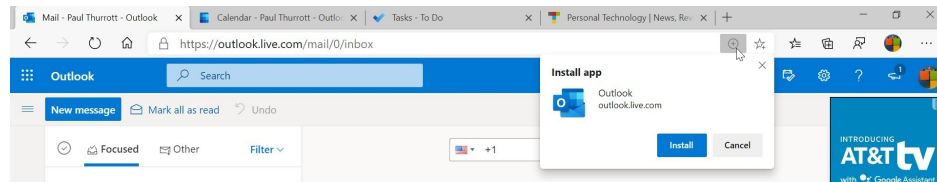
We examine other features related to tabs in the section *Manage tabs*, later in the chapter.

## Pin a favorite web app or web page to the taskbar

Microsoft Edge also lets you pin favorite web pages to the taskbar. This is useful for web apps like Outlook.com, Twitter, or whatever that you may wish to access alongside the other application shortcuts you've pinned to the taskbar.

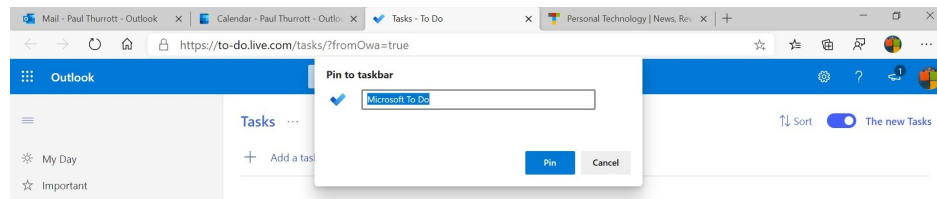
The interface you see will differ depending on whether the site you're visiting has been designed as a Progressive Web Application (PWA) or not. But you can pin any web page to the taskbar.

If you do navigate to a PWA, an Install button ("+") will appear in the rightmost part of the address bar. Select this button to install the PWA and pin it to your taskbar.



Then, right-click its taskbar button and choose “Pin to taskbar.”

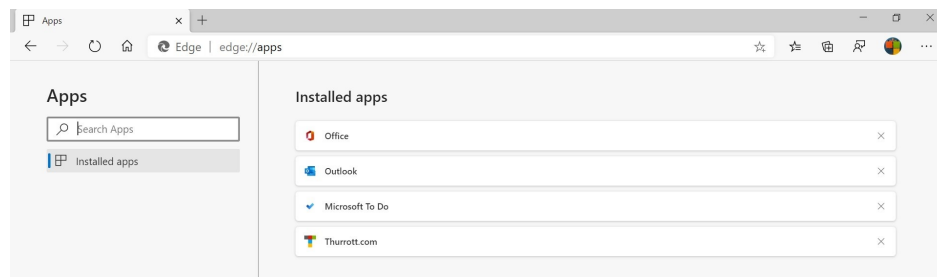
To pin any web page to the taskbar, open it in Microsoft Edge, then open Settings and more (“...”) and choose More tools and then “Pin to taskbar.” You will be prompted to edit the name.



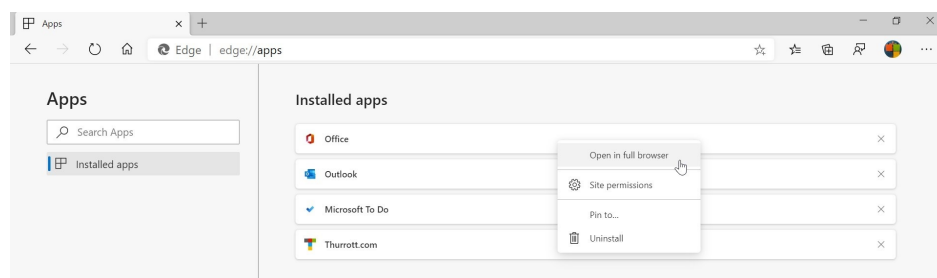
Here, the three rightmost shortcut buttons on the taskbar—for Outlook.com, Microsoft To-Do, and Thurrott.com—were pinned from Microsoft Edge.



Pinned web apps and web pages can be managed in the Edge Apps settings interface (<edge://apps/>).



There is one important setting here: Each app and page can appear as a tab inside the main Edge application window or as its own standalone app (or app-like window). To configure this for an individual app or web page, right-click it in the Installed Apps list and toggle the “Open in full browser” choice. When enabled, it will open in a tab, not a window.





Pinned web pages are managed like any other taskbar shortcut. To remove one, right-click it and choose “Unpin from taskbar.” You can also remove pinned apps and pages from the Edge Apps settings interface (<edge://apps/>): Just select the Uninstall button (“x”) next to the app/page you wish to remove.

## Read on the web

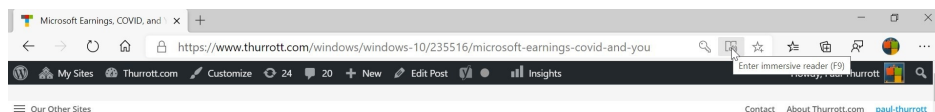
At a high level, Microsoft Edge works much like other browsers when it comes to its basic reading capabilities. You can change the zoom level on the fly using keyboard shortcuts (CTRL + Plus, CTRL + Minus) or with the Zoom toggle in Edge’s Settings and more menu. You can use the Find on page (CTRL + F) feature to find specific words or phrases in any web page. And Microsoft Edge supports a privacy feature, called *InPrivate*, that can keep what you read on the web private to you, and away from your stored (and synced) web browsing history.

In addition to that common functionality, Microsoft Edge also offers a number of unique reading features. We’ll discuss those features related to reading on the web here, and then additional features related to PDF files, another common document type on the web, later in the chapter.

## Read articles on the web without distractions

Microsoft Edge offers a nice Immersive reader experience that displays web articles without any of the surrounding advertisements and other distractions.

You must enable Immersive reader manually on a page-by-page basis. To do so, navigate to a web article you wish to read. Then, select the Immersive reader icon in the address bar.

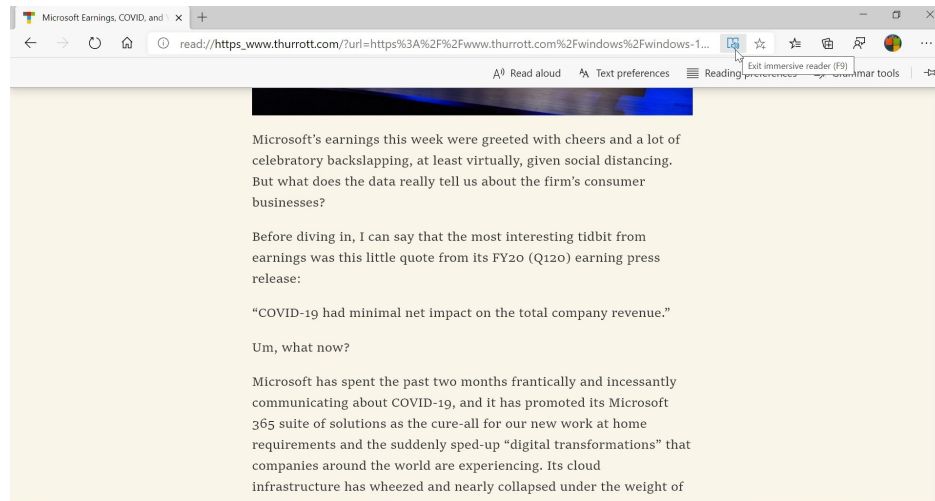


The Immersive reader icon only appears when Edge is displaying a web article.

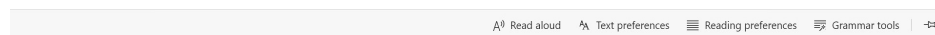


You can also press F9 to enable Immersive reader.

When you do, the article reloads in a themed Immersive reader view.



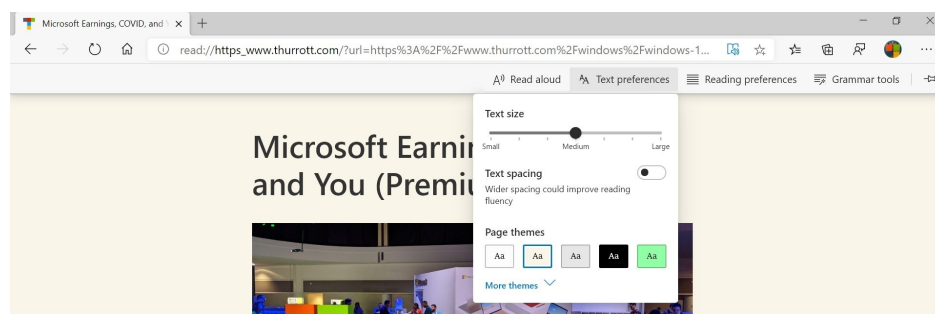
Immersive reader provides several useful options via a toolbar that auto-hides by default after a brief appearance. To display this toolbar later, click (or tap) anywhere in browser window, or move the mouse cursor towards the top of the view.



From left to right, the available options include:

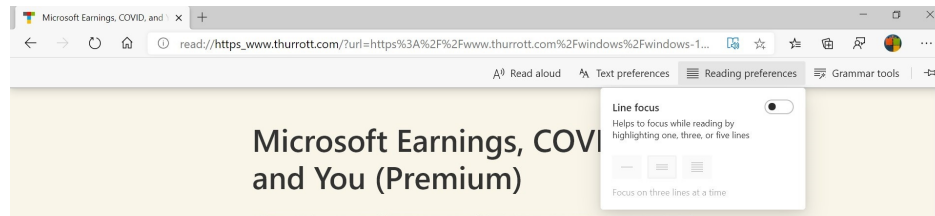
**Read aloud.** This feature will read the web article aloud to you. It is described in more detail in the section *Read a web article aloud*.

**Text preferences.** This item opens a pane that lets you customize the Immersive reader's text size, text spacing, and theme so that it looks exactly the way you like.



**Reading preferences.** Here, you can enable and configure a line focus feature that will highlight one, three, or five lines of text (your choice) as you read.





**Grammar tools.** This feature can help you learn to read better by providing a set of tools right in the article you are currently reading. You can learn more in the section *Improve your reading skills*.

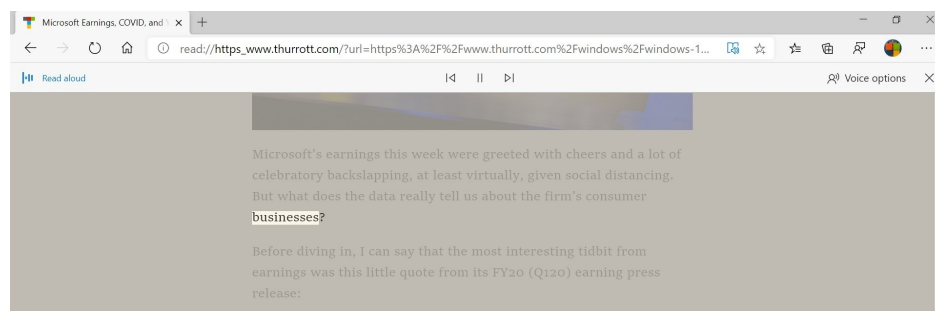
**Pin/Unpin toolbar.** To keep this toolbar visible all the time, select the Pin toolbar button.

Some browser features, like printing and displaying the browser in full-screen mode, also work well with Immersive reader. If you print an article while in this view, for example, it will print it in the style used by Immersive reader.

## Read a web article aloud

Microsoft Edge provides a unique feature called *read aloud* that will, as its name suggests, read a web article aloud to you over the PC's default playback device (typically its speakers). It's like listening to an audiobook, and though it is a little robotic, some of the voices Microsoft provides are quite good.

To utilize this feature, display the Immersive reader toolbar and select the Read aloud button. When you do so, the Read aloud controls will appear in the toolbar and Microsoft Edge will begin reading the article aloud to you. As it does, it highlights the current word in yellow.



The Read aloud toolbar has buttons for Play/Pause and for jumping to the previous or next paragraph. The Voice options button can be used to configure the speed of playback and to choose a different voice.

## Improve your reading skills

The Grammar tools button in the Microsoft Edge Immersive reader toolbar provides access to tools that may help you learn how to read better. This functionality can be useful for anyone who has

dyslexia, trouble with word decoding, or any other kind of reading disorder. It can also be useful for people learning another language.

The Grammar tools drop-down provides two tools:

**Syllables.** When you toggle this option on, web articles in reading mode will split apart words into their constituent syllables so that you can sound them out more easily as you read.

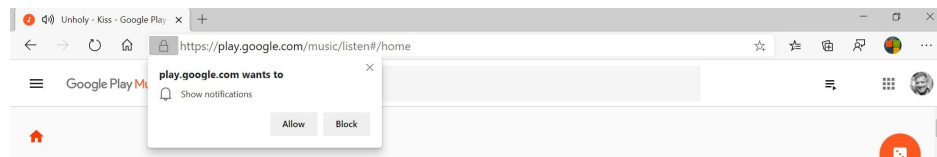
**Parts of speech.** This set of options lets you toggle the highlighting of particular parts of speech—for nouns, verbs, and/or adjectives—so that you can better understand which is which. Each is coded with its own configurable color, so it's not confusing if two or more are enabled at the same time.

## Manage website notifications

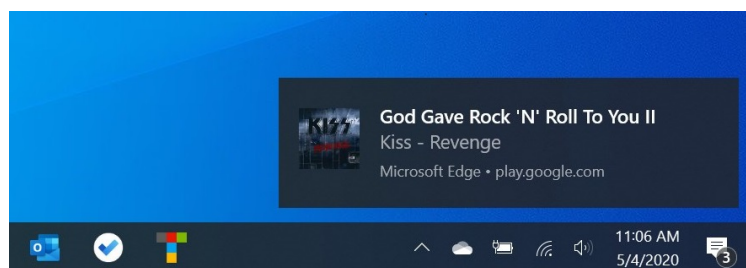
As web technologies advance, websites are starting to adopt capabilities that were previously only available to native applications. Among these features is the ability to send you notifications when something happens. For example, a web-based email service can send a notification when a new message arrives. Or a news site can send you a notification when there is breaking news.

What makes these website notifications particularly compelling in Windows is that they can integrate with Action Center alongside system and app notifications.

When you do visit a website that can deliver notifications, you will be prompted at the top of the Microsoft Edge window.



If you select Allow, that website will now display notifications that look and work just like any other notifications in Windows. A pop-up notification banner will appear in the lower right of your display.

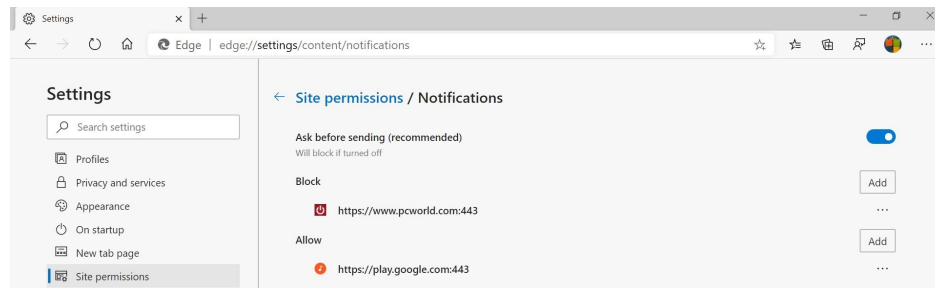


If you select this notification in time, Microsoft Edge will appear with the proper tab selected so you can respond to whatever triggered the notification.



The notification will also display in the Action Center (WINKEY + A) so you can deal with it anytime in the future.

Microsoft Edge maintains a list of the websites for which you have accepted notifications. If you don't find this behavior useful, you can disable notifications on a site-by-site basis. To do so, open Microsoft Edge and select Settings and more ("...") and navigate to Site permissions > Notifications (<edge://settings/content/notifications>).



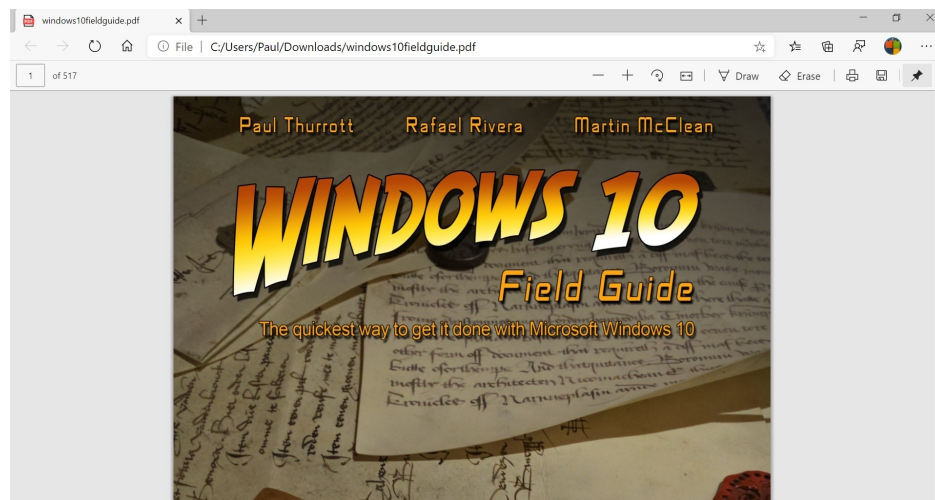
Here, you can configure notifications on a site-by-site basis. If you now wish to disable notifications from a particular site, select the More actions ("...") button next to that site and choose "Block" (or "Remove").

## Read and manage PDF files

Microsoft Edge isn't just a web browser: It can also be used to read and annotate PDF (portable document format) files. While it's not as full-featured as some PDF readers, it should meet most people's needs.

### Read a PDF file

To read a PDF file, simply open one anywhere in your file system or on the web.



Microsoft Edge doesn't offer a Reading view for PDFs as it does for web articles as these documents are purposefully structured so that they always appear as the author intended. But it does offer several reading options via a toolbar that is enabled and pinned on by default.



You can toggle the display of this toolbar at any time. To hide it, select the Unpin toolbar button at the far right of the toolbar. When you do so, it auto-hides, much like the Immersive reader toolbar.

From left to right, the available commands are:

**Page number.** Select here to enter a new page number and jump directly to that point in the document.

**Zoom out and Zoom in.** The handy minus and plus buttons can be used to zoom out and into the document, respectively. (You can also use the keyboard shortcuts CTRL + “ [minus] and CTRL + + [plus], respectively.)

**Rotate.** If you select this button, the document will rotate 45 degrees to the right. This is useful for viewing scanned documents that are not oriented correctly.

**Fit to width/Fit to page.** Use this button, or the keyboard shortcut CTRL + SHIFT + A, to toggle the display of the document between full width and full page views.



**Draw.** You can draw on a PDF using a digital pen, your finger, or your mouse, depending on the capabilities supported by your PC.

**Print.** Use this button to print the PDF, obviously.

**Save.** Especially handy when viewing a web-based document, the Save button lets you save the PDF to your PC, or save an existing document with in a new location and/or with a new name.



As with Immersive reader, common browser functions like Full screen (F11) and Find on page (CTRL + F) all work normally while viewing a PDF too.



Some common PDF features, like the ability to display its table of contents, alas, are missing in action in the new Edge. But so are some unique features from legacy Edge, like Read aloud.

## Fill in a PDF form

Many PDF files are forms which you must fill out. You can do so with Microsoft Edge and then save the file with the data you entered. From there, you can print it out, email it back to the sender, or otherwise share the edited file with others.

Filling out a form in a PDF file is straightforward: Simply select each field, in turn, and type. You can press TAB to jump to the next field.

PDF Form Example

Not secure | foersom.com/net/HowTo/data/OoPdfFormExample.pdf

Please fill out the following fields. Important fields are marked yellow.

Given Name:

Family Name:

Address 1:

Address 2:

Postcode:

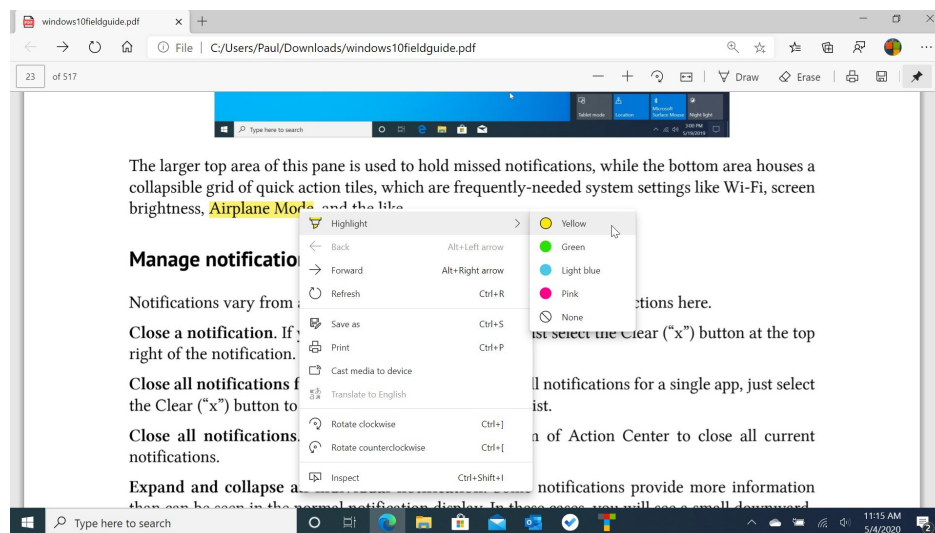
House nr:

City:

## Do more with a PDF file

Microsoft Edge is only a basic PDF reader, but it does offer a few other useful but non-obvious PDF features. These include:

**Highlight the selected text.** Select some text and then right-click and choose “Highlight” and then your choice of four colors.

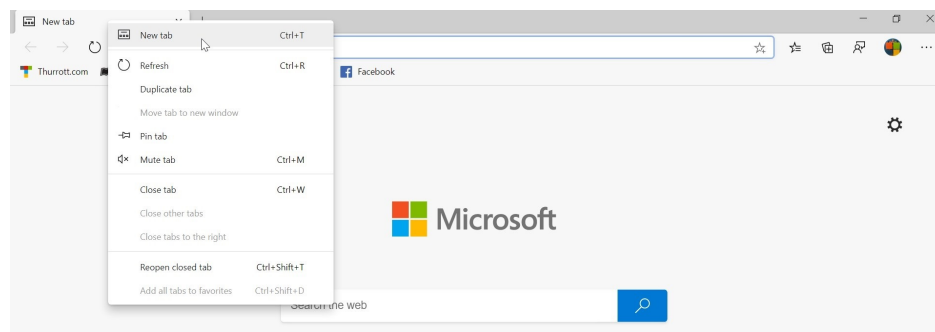


**Copy the selected text to the Clipboard.** Select the Copy button to copy the selected text (and/or images) to the system clipboard so that it can be pasted elsewhere.

And, yeah, that's about it. Since legacy Edge supported so many more PDF features, it's possible that the new Edge will be improved over time to add some back.

## Manage tabs

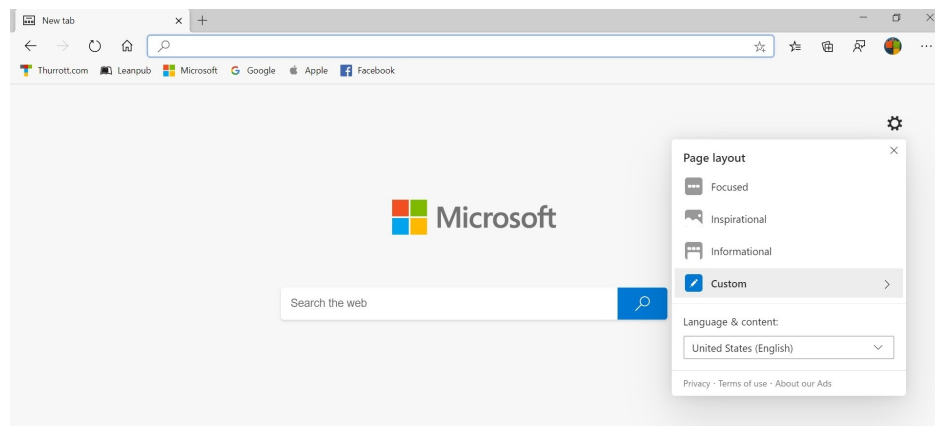
Like other web browsers, Microsoft Edge provides full support for tabs, which let you work with multiple websites in a single window. For the most part, tabs work as you'd expect, and you can easily find tab-related options by right-clicking the current tab.



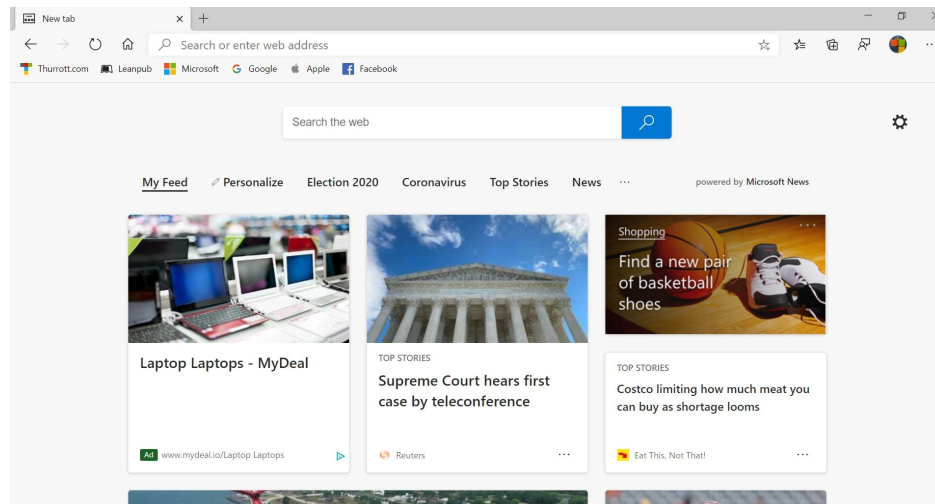
## Configure the new tab experience

The new tab experience is what you see by default when you launch the browser or open a new tab. But they don't have to be the same thing: You could configure Edge to display a different page or to pick up where you left off when it launches, for example, and separately configure the new tab page, which will now only appear when you literally open a new tab.

The new tab experience is configured by navigating to Edge settings > New tab page (<edge://settings/newTabPage>) and clicking Customize. When you do this, the new tab page appears with an open Page Settings pop-up that lets you configure the page layout and language to your liking.



There are four layout options—Focused, Inspirational, Informational, and Custom—but all of them provide a Bing search box and Microsoft News-based feed with news items, weather, and lots of advertising.

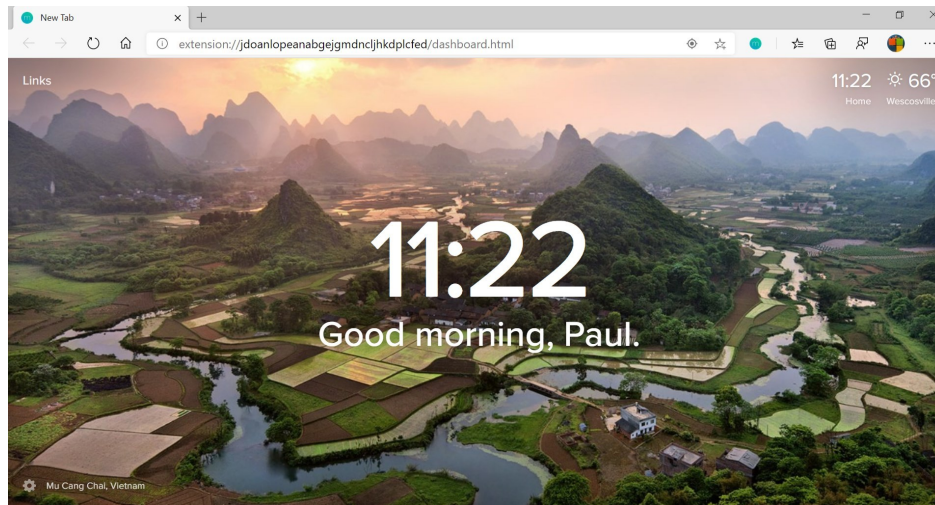


If this isn't ideal, you can replace the Edge new tab experience with something less terrible by using an extension.



We recommend and use [Momentum](#).





## Mute a tab

Some websites will play audio—usually as part of an associated video—when a page fully loads. To help minimize this annoyance, Microsoft Edge visually identifies which tab or tabs are playing media. And it lets you arbitrarily mute any tab, which can be faster than trying to find the video player inside of the tab.

When you display a web page that is playing media of any kind, a volume icon will appear in its tab.



To mute this tab, right-click it and select “Mute tab” from the context menu that appears.



When you do so, any sounds coming from that tab are muted and the icon in the tab changes to a muted speaker.

You can unmute the tab using the same steps.

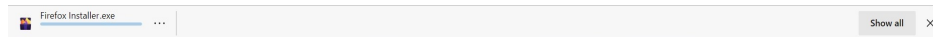


Muting a tab doesn't actually stop any media from playing, and it can only be done to one tab at a time. Fortunately, Microsoft Edge offers a way to prevent *any* web page from automatically playing audio or video. This option is described in the section *Disable automatic media playback in websites* earlier in the chapter.



## Manage downloads

Like other web browsers, Microsoft Edge lets you download files from the web in a fairly straightforward way. When you trigger a download, an inline download notification appears at the bottom of the Edge window.



Available choices can include:

**Open file.** Once the file is fully downloaded, you can open it (if it is a document or other data file) or execute it (if it's an executable file). The original downloaded file will remain in your Downloads folder (or whichever folder you downloaded it to.)

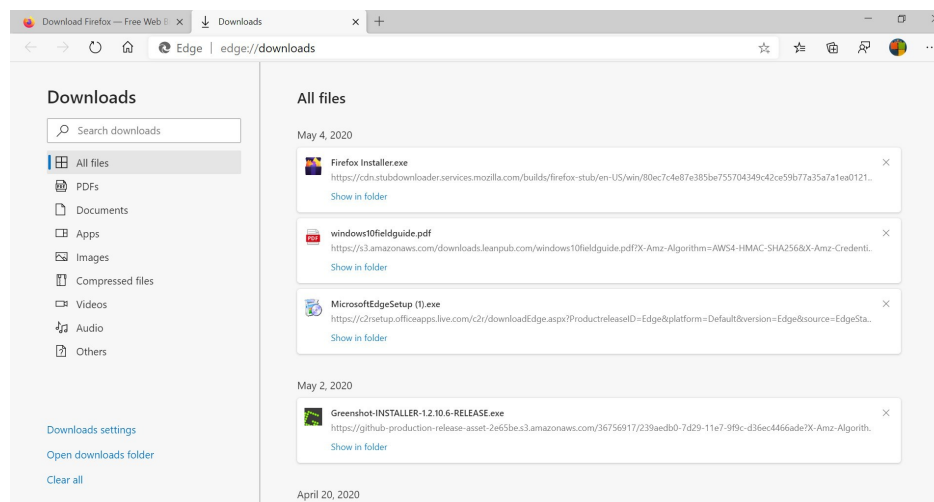
**Options.** While the file is downloading, you can select the Options (“...”) button to make other choices, including Pause, Show in folder, Cancel, and more. Most of these options are available after the file is downloaded as well.

**Show all.** Select the Show all button to open the Downloads folder.

**Close.** Select the Close (“x”) button to close the downloads toolbar at the bottom of the Edge application window.

While you can always open Downloads in File Explorer, Microsoft Edge also keeps track of all of your downloaded files. This is handy because some of those downloads may be located in different locations.

To view your downloads in Microsoft Edge, navigate to Settings and more > Downloads (or <edge://downloads>)



From here, you can select a download to open that file or remove individual downloads from the list. Note that doing so does not delete the download.



To delete your downloads, open File Explorer and navigate to your Downloads folder.

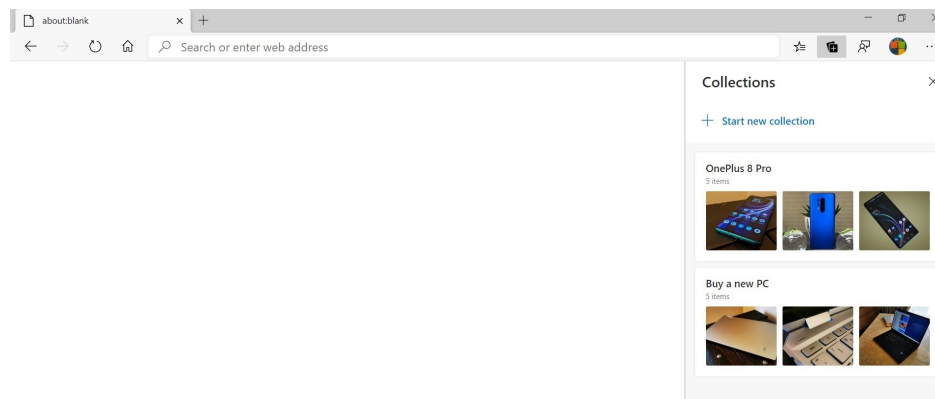
## Collect and organize web research

We all do it. Whether for reasons personal, educational, or work-related, we spend hours—or even days—scouring the web for information about a certain topic, opening more and more tabs as go. But managing that many tabs is cumbersome, and the favorites (bookmarks) functionality provided by web browsers is inadequate for collecting them into a single, manageable place for later viewing.

What we really need is to easily store and organize information from a variety of sources in a way that is easy to access later and share with others. Something that is separate from the browser’s tabs and favorites management features.

Microsoft’s solution to this problem is a unique Edge feature called *Collections*.

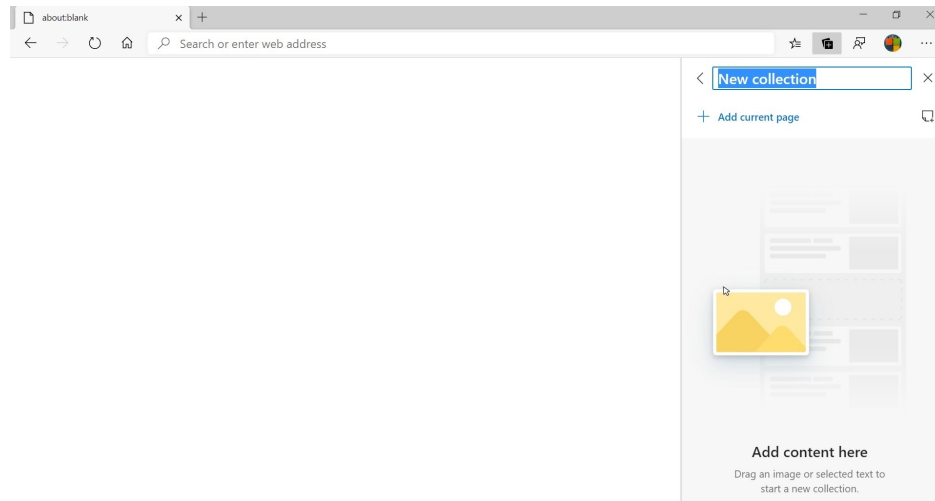
Collections appears as a collapsible pane in Microsoft Edge in which you can create and edit collections, add web pages and discrete bits of information to collections, and share and otherwise manage collections. You can display this pane by selecting the Collections button in the Edge toolbar, if present, or by navigating to Settings and more (“...”) > Collections.



How you use Collections is up to you, of course. But this feature is particularly good at researching for trips, shopping, school papers, work projects, and the like.

### Create a new collection

To create a new collection, open Collections and select “Start new collection.” When you do, a new collection appears in the Collections pane with its name highlighted so you can edit it.



If you're viewing a page you want to add to this new collection, you can use the “Add current page” link or the Add current page button to do so now.

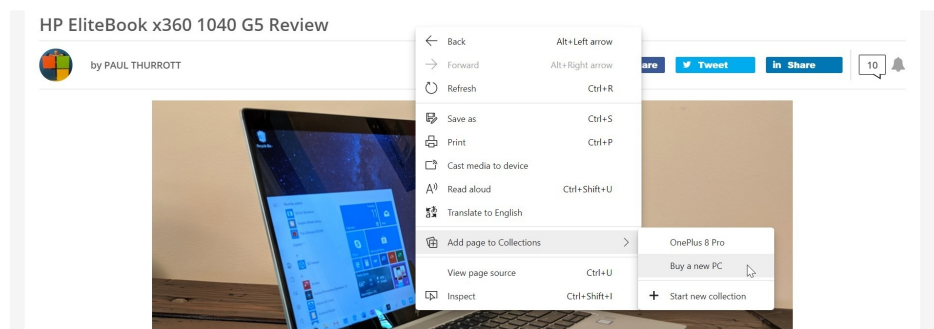


You can also create a new collection by right-clicking the currently-viewed web page, an image, or some selected text and choosing “Add page to Collections” (or “Add to Collections”) and then “Start new collection.”

## Add a web page to a collection

Many people will want to add a page to a collection. Doing so is similar to saving a favorite (bookmark), though the Collections presentation is nicer.

To add the currently-viewed page to a collection, right-click an empty area of the page and choose “Add page to Collections” and then the name of the collection.



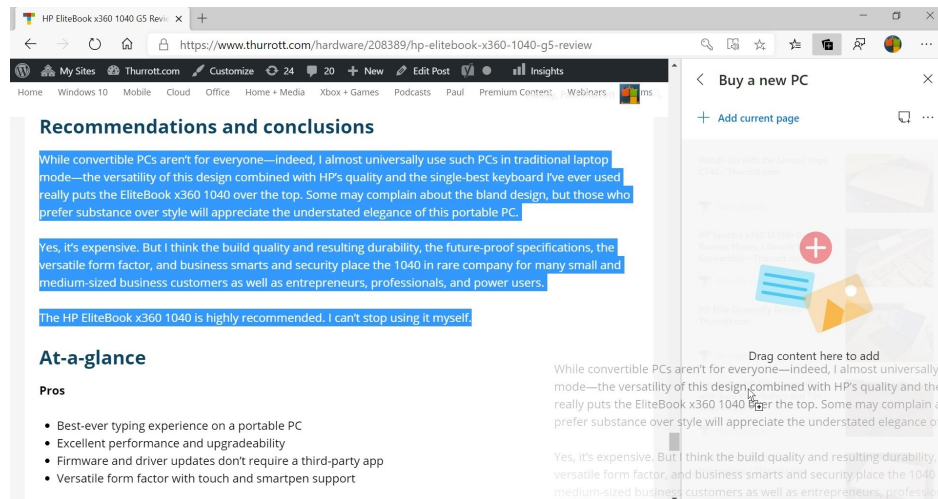
Or, if the Collections pane is already open, you can select the “Add current page” link in the Collections pane instead.

When you do so, the page is added at the bottom of the items in the selected collection.

## Add specific text to a collection

Sometimes you don't want to collect an entire web page and would instead like to collect just some specific text on a page. To do so, select the text you'd like to add, right-click it, and choose "Add page to Collections" and then the name of the collection.

But there's an easier way, too: You can select the text you'd like to add and then drag it right into the Collections pane.



## Add an image to a collection

Collecting an image works similarly: You can right-click an image you'd like to collect, then choose "Add page to Collections" and then the name of the collection. Or, simply drag and drop it into the Collections pane.

## Edit a collection

You can perform a variety of collection management actions when viewing a collection, including:

**Edit the name.** To edit the name of the current collection, simply select it and start typing.

**Rearrange the collected items.** To change the position of a collected item, just drag it to the position you prefer and drop it there.

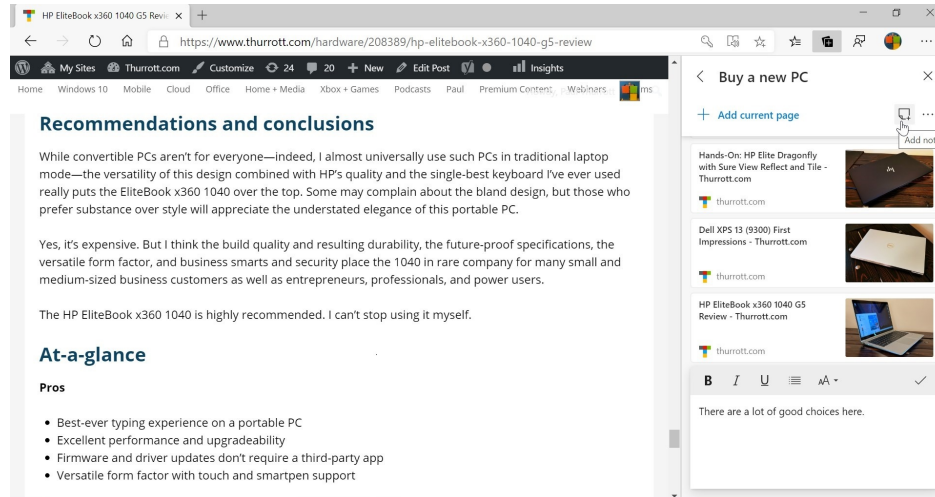
**Delete one or more collected items.** To delete a collected item, right-click and choose "Delete." To do so with more than one item, use the selection box in the upper-right corner of each item to select the items you wish to delete and then select the Delete selection icon that appears.

**Open all of the collection items.** To open all of the items in the current collection, select Sharing and more ("...") and then Open all. A new Edge window will open and display each item in its own tab.

## Add a note to a collection

In addition to collecting items from the web, you can add your own notes to a collection too.

To add a note, open a collection and select the Add note button. In the note panel that appears, type your note, which can include formatted text.

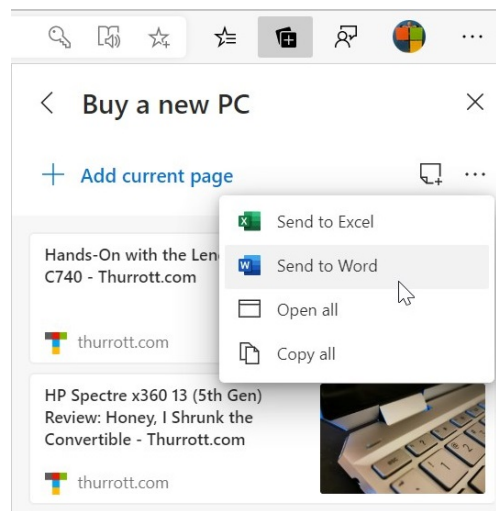


You can add multiple notes to any collection and arrange them as desired in the list.

## Share a collection or items in a collection

Collections can be shared in a variety of ways, as can one or more collected items. Supported sharing methods include sending a collection to Microsoft Excel or Word, copying a collection to the clipboard so you can paste its collected article names and URLs, and notes, in any application, and copying between collections.

To share a collection, open it and then select Sharing and more (“...”) and then the method you’d like to use.



To share one or more items within a collection, open it and then use the selection box in the upper-right corner of each item to select the items you wish to share. Then, select **Sharing and more** (“...”) and the method you’d like to use.

## Delete one or more collections

To delete a collection, open the Collections pane, right-click the collection, and choose “Delete collection.”

To delete two or more collections, open the Collections pane, use the selection box in the upper-right corner of each collection to select the collections you wish to delete. Then, select the Delete selection icon.

## Do more with Microsoft Edge extensions

Microsoft Edge supports *extensions* that can be used to add functionality to the web browser beyond that provided by Microsoft. Extensions are available for download from the Microsoft Store and, optionally, from the Chrome Web Store. Either way, they are managed directly in Microsoft Edge.

Some popular extensions we can recommend include:

**AdBlock.** This highly recommended extension blocks all annoying ads, malware, and tracking mechanisms from appearing while you’re browsing the web.

**Dark Reader.** Like many Windows apps, Microsoft Edge supports the dark app mode (or “theme,” as many think of it), but not in the websites you visit. Dark Reader solves that problem.

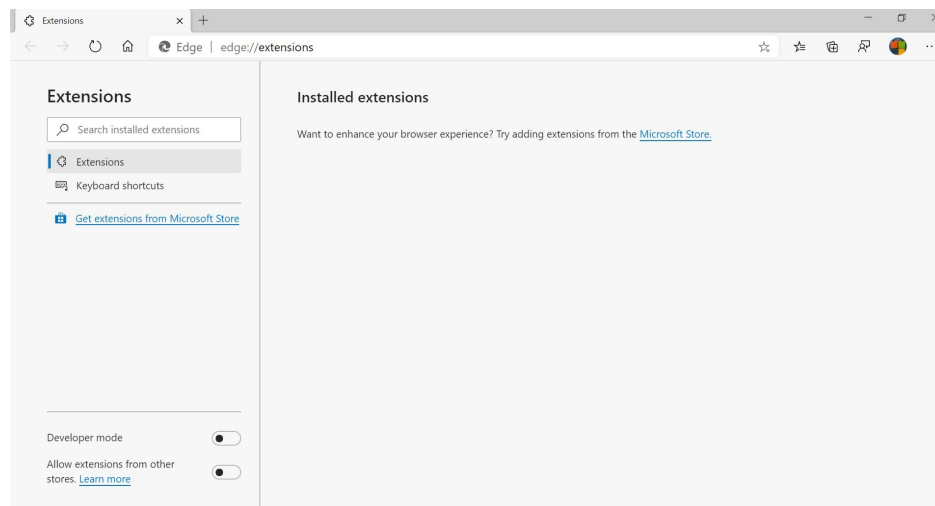
**Grammarly.** This indispensable tool corrects spelling and grammar mistakes that you make in email, forms, and anywhere else on the web.

**Momentum.** Tired of the fake news and advertising on Microsoft Edge's new tab page? Momentum provides a gorgeous new tab experience with a new photo every day, and several useful and configurable features.

**Privacy Badger.** This extension takes Edge's privacy protections to the next level by automatically blocking trackers that exist solely to promote advertising. It also removes outgoing link click tracking on Facebook, Google and Twitter.

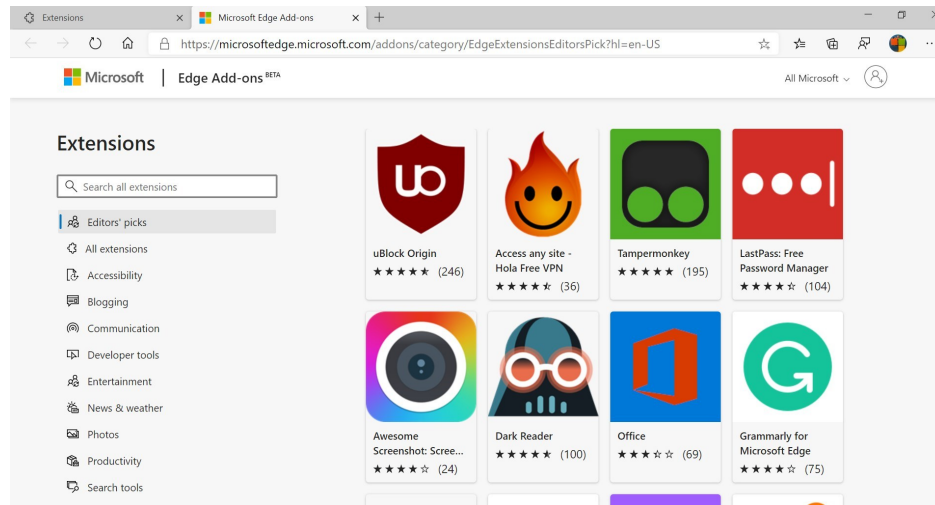
**Save to Pocket.** The new Microsoft Edge lacks legacy Edge's Reading list feature, but Pocket is even better. This extension lets you save articles to read them later on the device of your choice, using the Pocket mobile app or website.

You can view and manage Edge extensions using the Extensions settings interface via Settings and more ("...") > Extensions (or by navigating to <edge://extensions>).

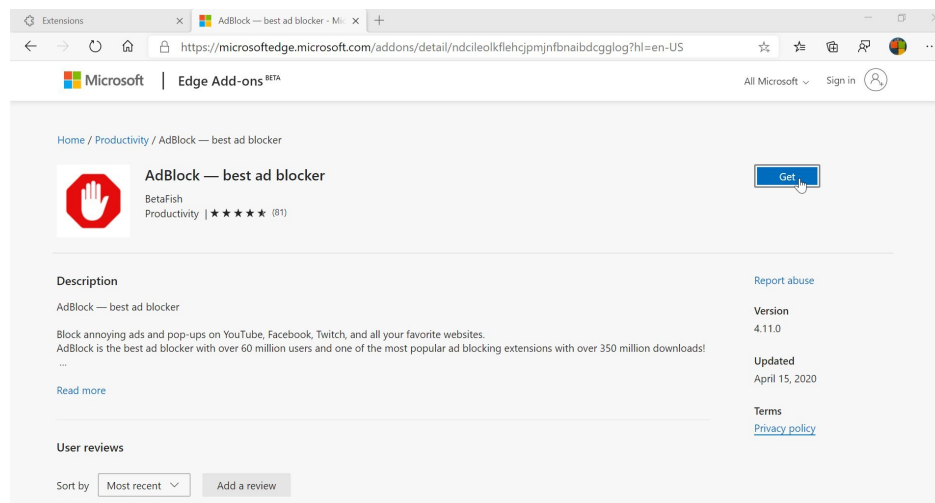


## Find an extension

To find an extension, open the Extensions page in Edge and select the “Get extensions from the Microsoft Store” link. Or, just navigate directly to the Edge Add-ons website at [microsoft-edge.microsoft.com/addons](https://microsoft-edge.microsoft.com/addons).



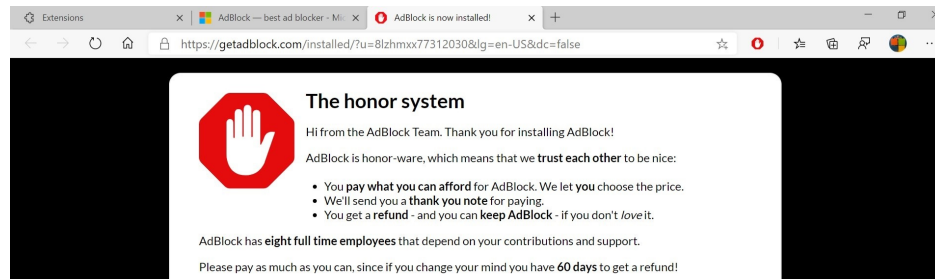
Extensions work just like apps and games in the Microsoft Store. Each extension gets its own page, complete with a description, screenshots, ratings and reviews, and other information.



To install the extension, click the Get button.

After the download and install is complete, a new button representing the extension will appear in the Edge toolbar. And many extensions will display a web page where you can sign-in to its service, if necessary, or learn more about the extension.

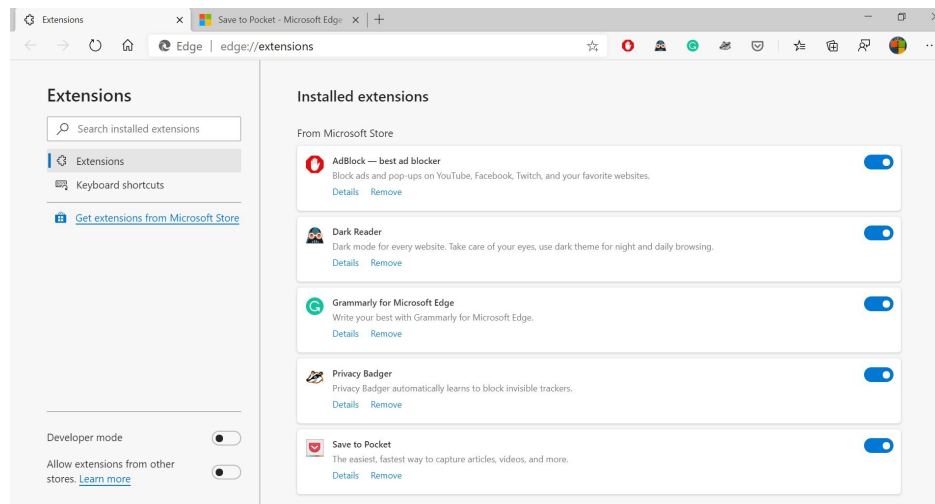




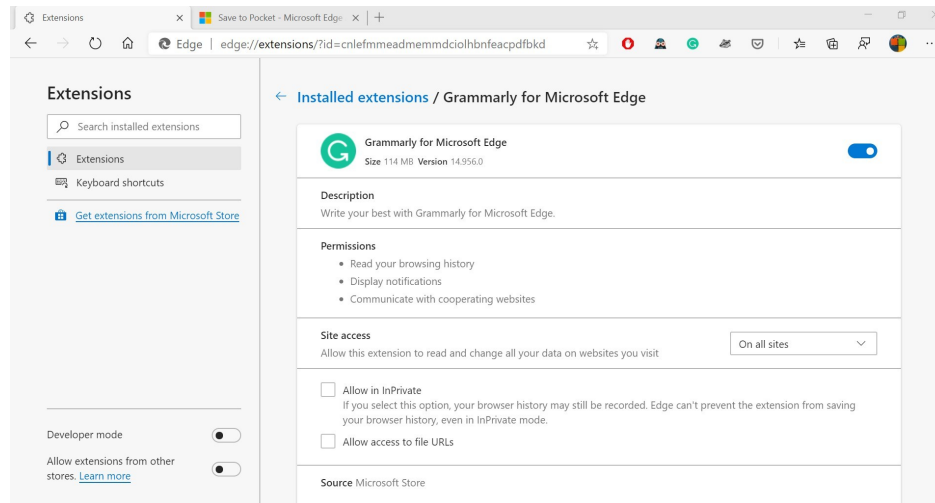
If you don't want an extension button to be in the toolbar, you can hide it. This is explained in the next section.

## Manage extensions

To manage your installed extensions, open [the Extensions page](#). Any extensions you've installed will now be listed here.



From this interface, you can toggle any extension off (or back on). Or, select the “Details” link under an extension to display information and options specific to that extension.



Select the “Remove” link under an extension to permanently delete that extension.

In addition, you can configure whether each extension you install displays a toolbar button. Some of these buttons, like those Ad Block and Dark Reader, may provide useful information, or need to be interacted with. But others, like that for Momentum, do not.

To hide an extension toolbar button, right-click it and choose “Move to the menu.”

## Get extensions from the Chrome Web Store

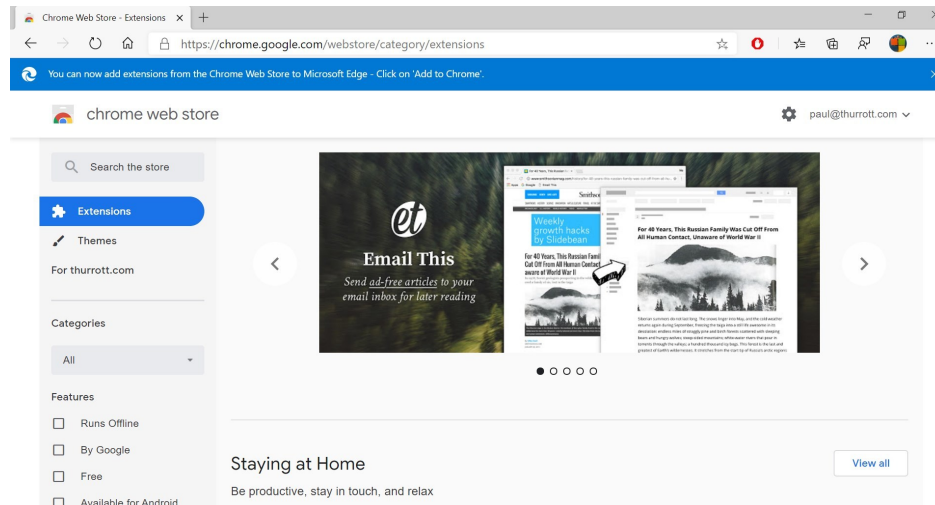
The Microsoft Store has the most popular extensions you may need, but it doesn’t offer the wider selection that’s provided by the Chrome Web Store. If you know of an extension that’s not available in the Microsoft Store, you can configure Edge to also support the Chrome Web Store and other third-party extension stores.

To do so, open [the Extensions page](#). Then, toggle the option “Allow extensions from other stores” to On.

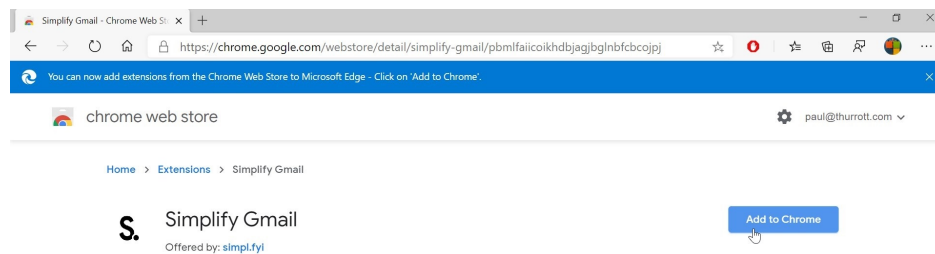


You can mix and match extensions from multiple stores.

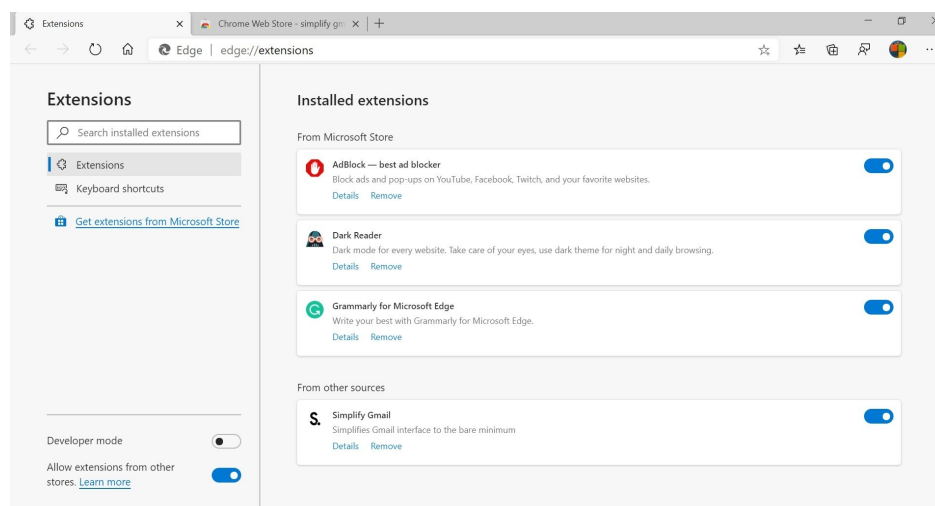
Now, navigate to the [Chrome Web Store](#), which will note that it is compatible with Microsoft Edge.



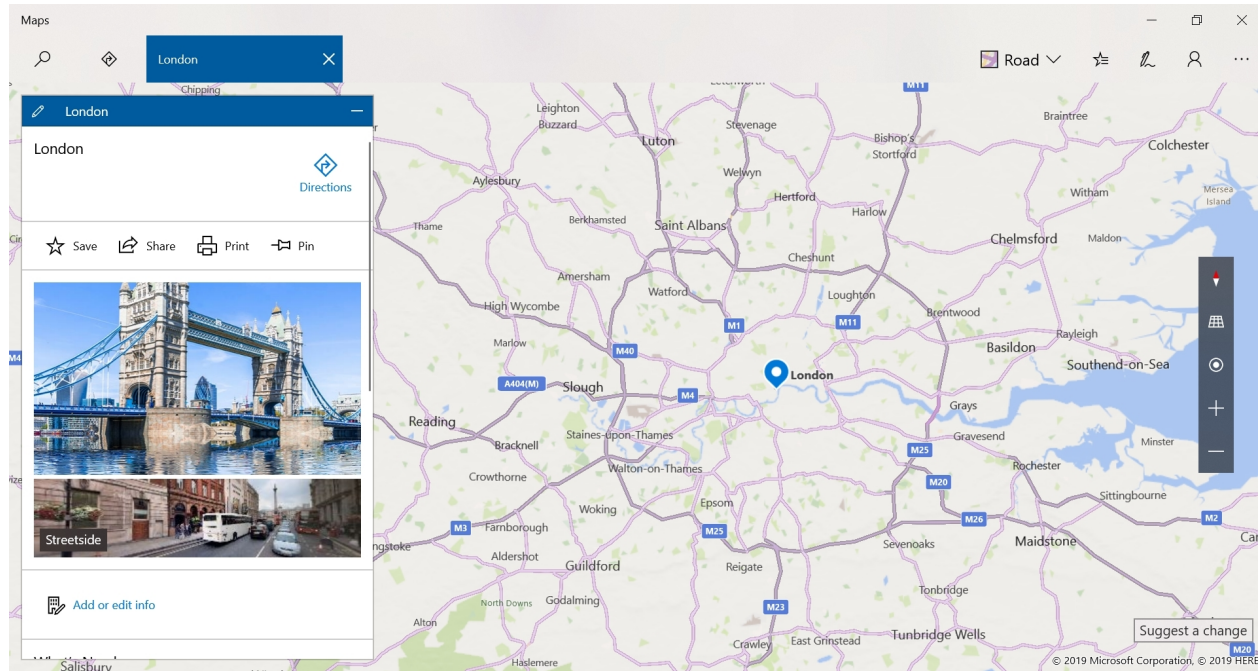
Like the Microsoft Store, the Chrome Web Store provides a page for each extension that includes a description, screenshots, ratings and reviews, and other information. To install an extension, click the Add to Chrome button.



Extensions you download from other sources are still managed inside of Edge. As you can see here, they are visually separated from extensions you obtained from Microsoft.



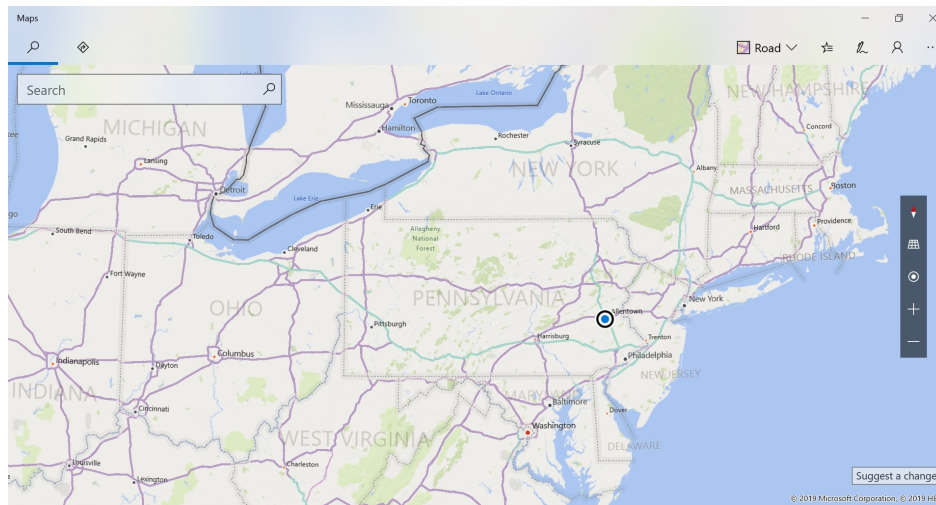
# Maps



The Maps app helps you find places that interest you, and it provides personalized recommendations and step-by-step directions for getting there by car, public transportation, or walking. These places can be nearby your current location, or you can use Maps to virtually explore another place before you visit.

## Get to know the Maps apps

Most of the surface area of this app is taken up by the map view, and it will automatically find your location if possible and navigate there when the app starts. But if you look closely, you'll see some controls, including Search and Directions choices in the top left and other buttons—Map views, Saved places, Windows Ink toolbar, Account, and See more—in the top right. Additional Maps features, like Traffic and 3D Cities, are available via the See more menu.



Maps also uses a floating toolbar for navigating in and controlling the map view.



Like a web browser, Maps also supports multiple tabs, each of which provides its own map view. You can't create tabs manually, but each time you search for a location, a new tab is created. You can see these tabs in the upper part of the Maps window to the right of the Search and Directions buttons.



Tabs work as you'd expect. You can close a tab at any time by selecting its Close ("X") button or by typing CTRL + W. You can switch between tabs by selecting one with your mouse or by typing CTRL + TAB (or CTRL + SHIFT + TAB). And you can close all tabs by right-clicking in the tabs area and selecting "Close all tabs" from the pop-up menu that appears.



If you sign-in to Windows with a Microsoft account, Maps will automatically sync your saved places and search history to all of your devices, which is quite useful. Otherwise, click the Account bubble at the top right of the app window to sign-in to your Microsoft account.

## Navigate and change the view

To navigate around the map view, press the arrow keys on your keyboard to move up, down, left, and right, respectively. Or, grab an area of the map with your mouse and drag in the direction you prefer.



Those with a touch-based PC can also navigate around the map view by panning, pinching and stretching with their fingers. This works similarly to using a maps app on a modern smartphone.

## Use the navigation toolbar

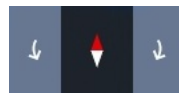
You can also access the navigation and view controls found in the vertical toolbar on the far right of the app.

The following controls are available.

**Rotate North to top.** Select this button to reorient the map so that north is up.



**Rotate counterclockwise or clockwise.** If you mouse-over the Rotate North to top toolbar button, two additional buttons, for Rotate counterclockwise and Rotate clockwise, will appear to that button's left and right, respectively.

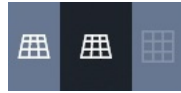


You can also type CTRL + RIGHT ARROW or CTRL + LEFT ARROW to rotate the display. Those with a touch display can drag the Rotate North to top button left or right to rotate the display.

**Tilt.** Select this button to toggle the tilt of the display between the default flat view and a 3D tilted view.



**Tilt down and Tilt up.** You can also use the Tilt control to tilt the map in differing amounts. When you mouse over it, two additional buttons will appear to indicate that you can tilt up and tilt down.



You can also type CTRL + UP ARROW for tilt up, and CTRL + DOWN ARROW for tilt down. With a touch display, you can also drag the Tilt button left or right to tilt the display.

**Show my location.** Sometimes when you pan around a map too much, you can lose track of your current location. To display your location in the center of the map again, select this button.



You can also type CTRL + HOME to navigate to your current location.

**Zoom in and Zoom out.** The bottom two buttons in the Maps toolbar let you zoom in and out on the map display.



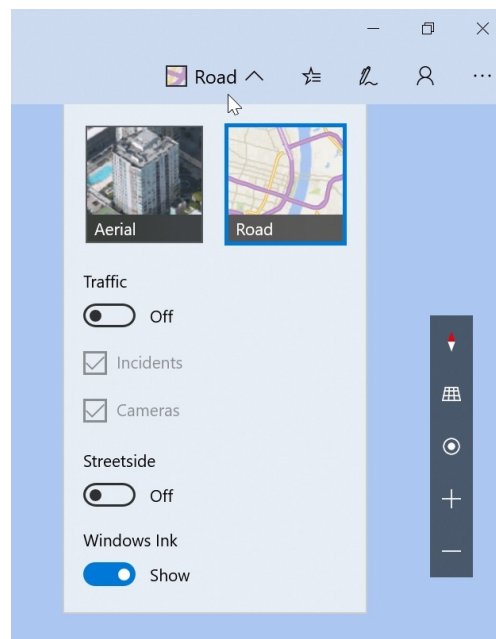
You can also type CTRL + + (that is, CTRL and the “plus” key on your keyboard) to zoom in, and CTRL + - (that is, CTRL and the “minus” key on your keyboard) to zoom out. If your mouse has a scroll wheel, it can also be used to zoom in and out of the map view.

## Change the map view

By default, Maps uses a road view display. But you can switch this to an aerial view and optionally display other information on the map, including current traffic conditions, places where Maps has photographic street-side views, and any Windows Ink annotations you may have added to the map.

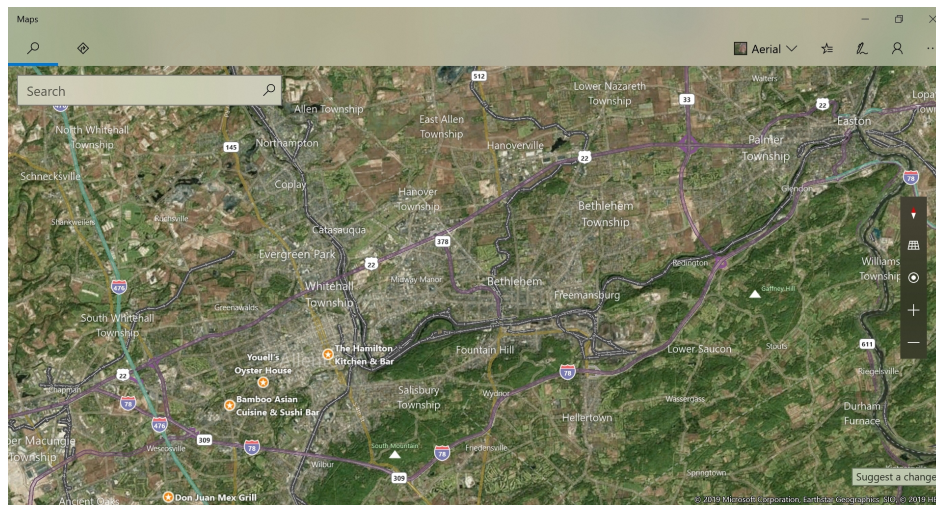
To choose between these options, select the Map views control.





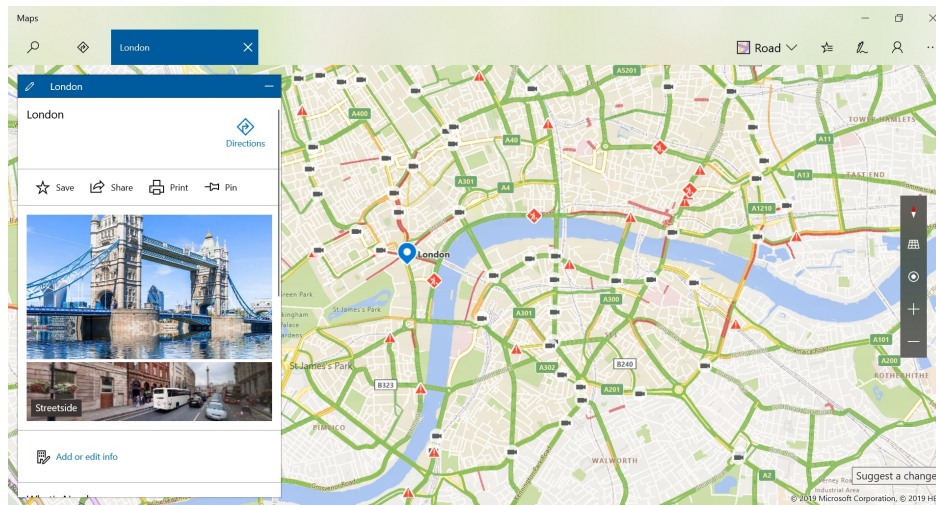
Available options include:

**Aerial/Road view.** Maps supports two main views, Road view, which is the default, and Aerial view, which resembles the view a satellite would see from space.



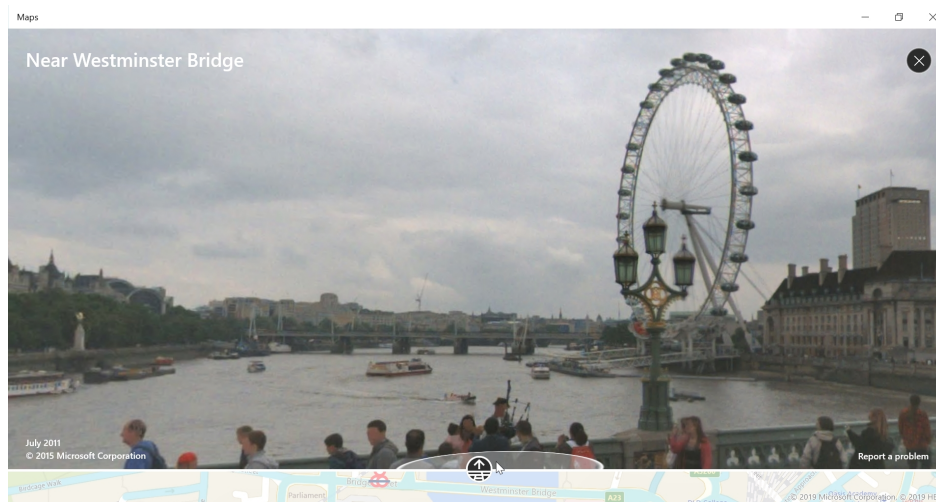
**Traffic.** Maps lets you toggle traffic conditions, including optional incident (accidents, construction and the like) and speed camera locations. Traffic is denoted in green, yellow and red colors, where green is free-flowing traffic and red is extremely slow or stopped.



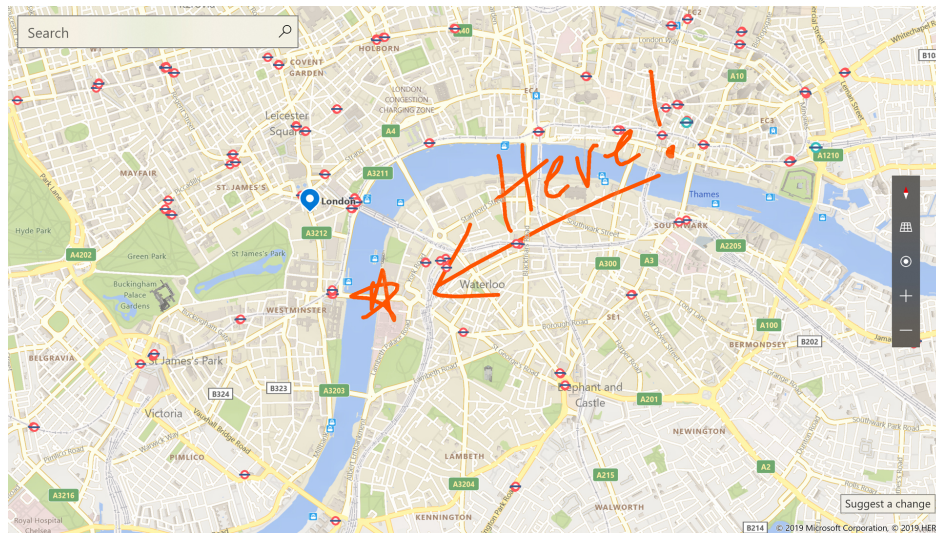


You can also type CTRL + T to toggle traffic view.

**Streetside.** When you toggle this options, Maps will denote streets for which it has photographic street-side imagery—similar to the Google Maps Street View feature—in a light blue color. When you enable this mode and select a place that is marked in this light blue color, the view will zoom in and provide a “you are there” photographic view. You can navigate around from here and virtually visit the place.



**Windows Ink.** Maps lets you overlay Windows Ink on the map view, providing a fun way for those with smartpen-compatible PCs to annotate the map so they can remember and find places later.



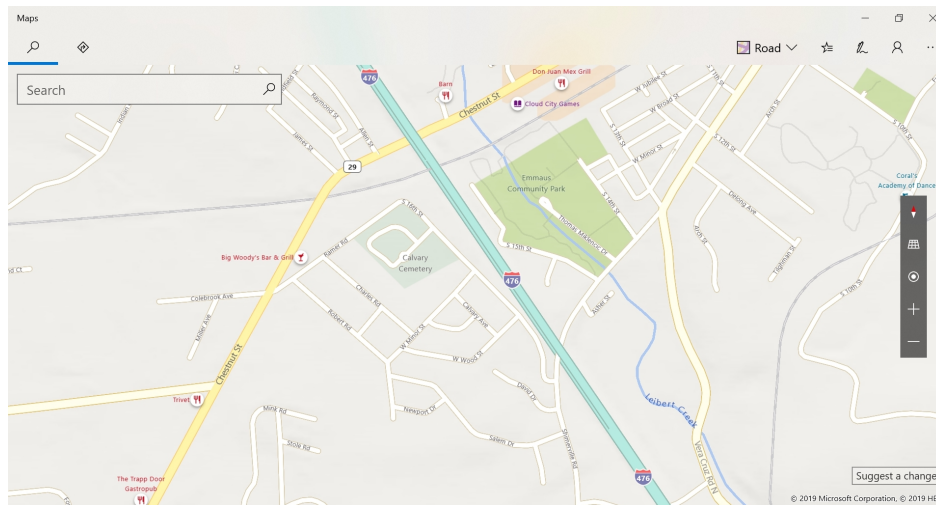
We discuss Windows Ink and Maps later in the chapter.

## Find and explore places

Maps helps you find places that are nearby your current location, or anywhere in the world. It also helps you find out more about these places and explore the world.

### Find a place

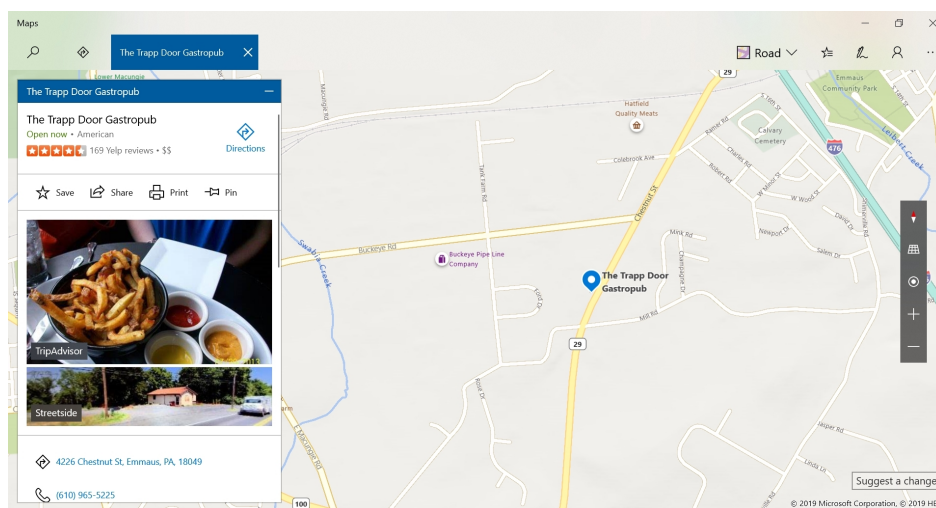
To find places near your current location, select the Show my location button in the Maps toolbar and then begin zooming in. As you do, the level of detail increases, as does the density of stores, restaurants, and other locations of interest.



To find places at another location, select the Search box search for a location. For example, if type *Paris* you will receive a number of items, including Paris, France. Just select the item in the results list you want.

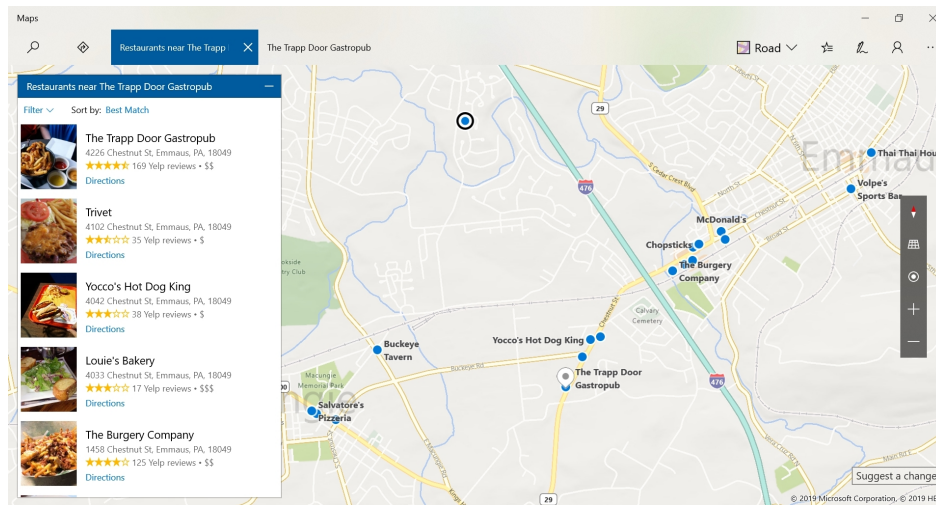
## Learn more about a place

If you select a place on the map or an item in a search results list, you'll see new display with a special information pane that includes options for discovering more about that location.



There's a lot going on here. In addition to providing information about the location, this view also provides a set of What's Nearby buttons that can change the view to provide more information about restaurants, attractions, shopping ("malls"), hotels, banks, hospitals, and parking in that location.

For example, when you select the Restaurants button, you will see a list of restaurants near the selected location.



And, yes, if you select an item from the list, you can find out more about that place as well.

From these views, you can perform a variety of actions, including getting directions, saving the place, sharing the place, and so on. There are links to the place's phone number and web site, when available, reviews, and more. You can also find more nearby places of interest and continue your navigation through an area. It's like having a virtual tour guide, leading you from one place to the next.

## Save and manage places

Maps lets you save places, including your home, workplace, and car, so that you can easily navigate to them when needed. It also lets you save places as *favorites*, similar to how Favorites works in Microsoft Edge (or what other web browsers call bookmarks). And it lets you create *collections* of places, which can be handy when you're planning a trip and want to only view those places you wish to visit at that time.



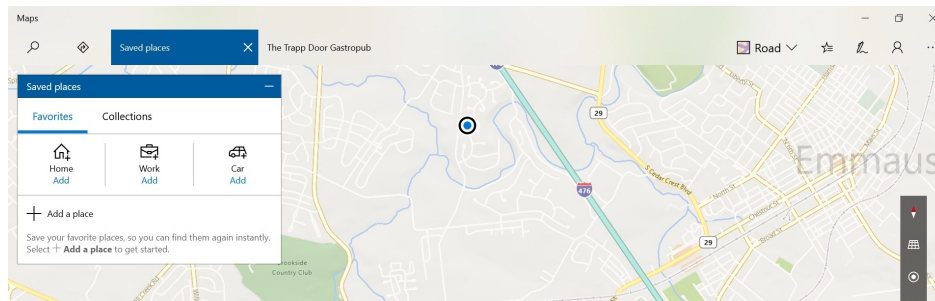
These saved places sync between your PCs if you sign-in with your Microsoft account.

## Configure your home, work, and car

Maps lets you configure your home, workplace and car(s) so that you can easily navigate to them as needed.

To do so, select the Saved places toolbar button, which resembles a star and is identical to the icon that Microsoft Edge uses for website favorites. The Saved places window appears.

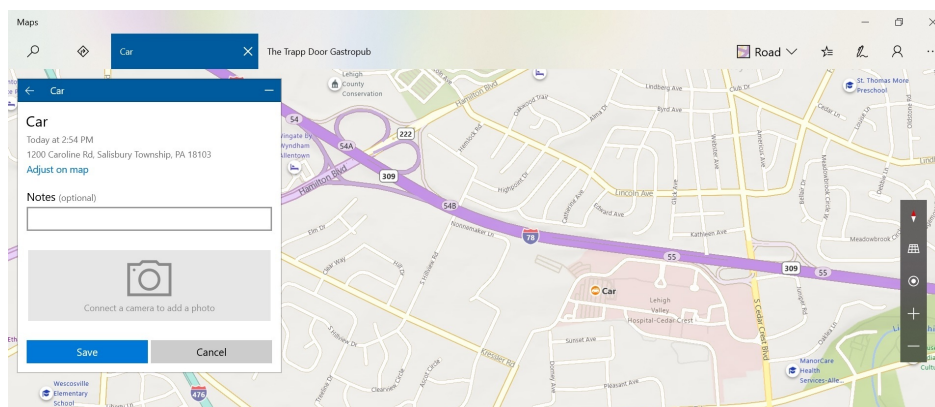




As you can see, there are Home, Work, and Car icons at the top of this window. If one of these locations is already configured, you will see a “Directions” link under it so that you can navigate to that location. Otherwise, you will see an “Add” link.

To add a workplace or car location, select the appropriate “Add” link. For Work, you are presented with a search box so that you can find your workplace and configure it in Maps.

Each of these locations also lets you add optional notes and a photo. This can be handy with Car, in particular: If the car is currently in an unfamiliar parking lot or other location and you might need some additional help finding it later.

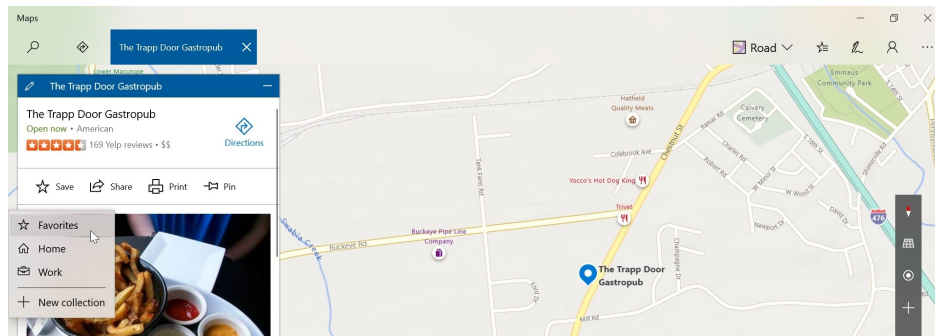


In each case, you can also select the location—Home, Work, or Car, and then change its location, add or edit notes, and find things nearby.

## Save and manage your favorite places

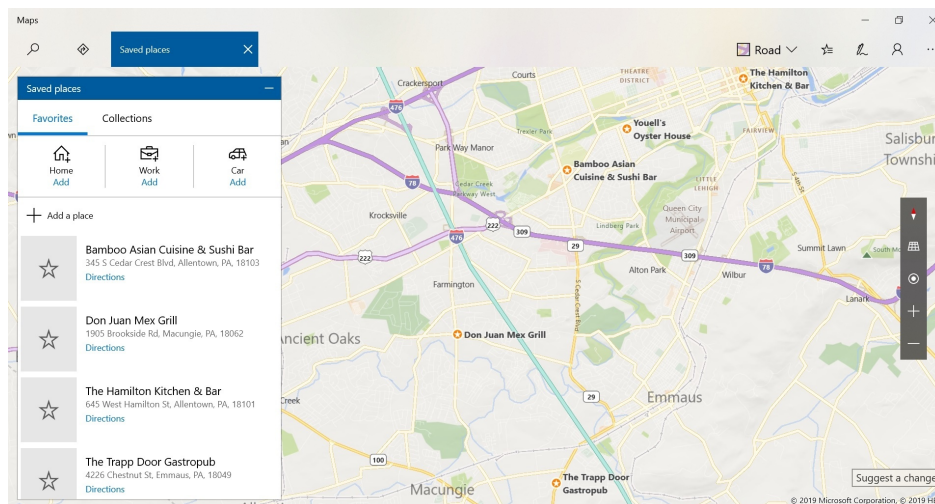
Like a web browser, Maps lets you save a place as a favorite. And it maintains a list of these favorite places so that you can more easily find them in the future.

To save a favorite place, first locate it with Maps. Then, select the Save button and then Favorites.



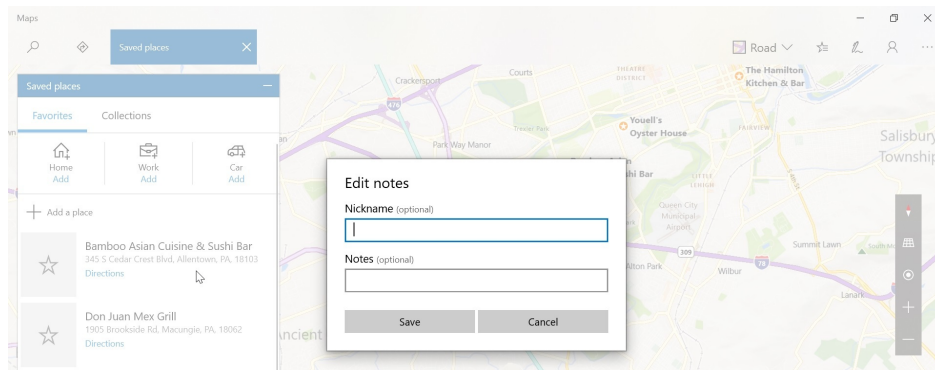
When you do, the place is added to your Favorites list in Maps, and it will be denoted in the map view with an orange star.

To see your favorites, select the Saved places toolbar button. The Save places window appears, displaying the Favorites view.



From here, you can select the favorite to learn more. Or you can select the “Directions” link to navigate to that place.

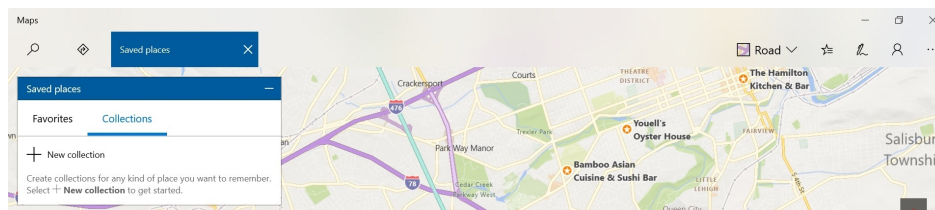
You can also edit a favorite. To do so, right-click the place and then select “Edit.” In the window that appears, you can add a nickname for the place and some notes if you’d like.



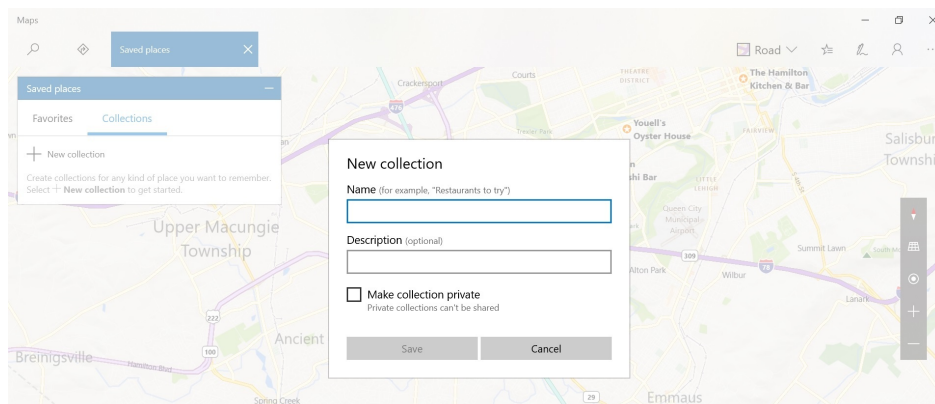
## Create and manage collections of places

In addition to letting you save your home, work, and car locations and a list of favorite places, Maps also provides a handy collections feature that lets you collect places together. This can be handy if you're planning a trip, among other things: You can create a collection for the trip and then save locations you'd like to visit in that collection.

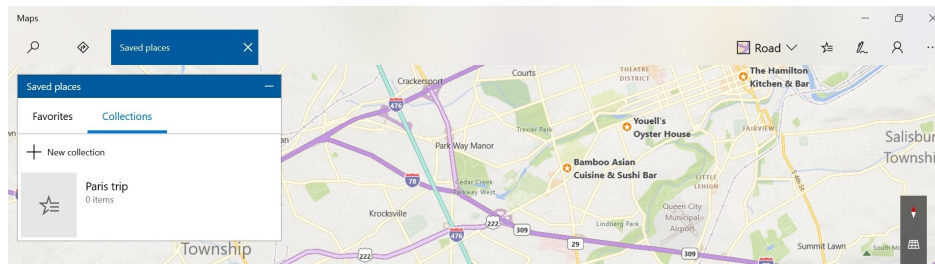
Let's say you're planning to visit Paris, France. To create a collection for this trip, select the Saved places toolbar button to display the Save places window. Then, navigate to the Collections tab.



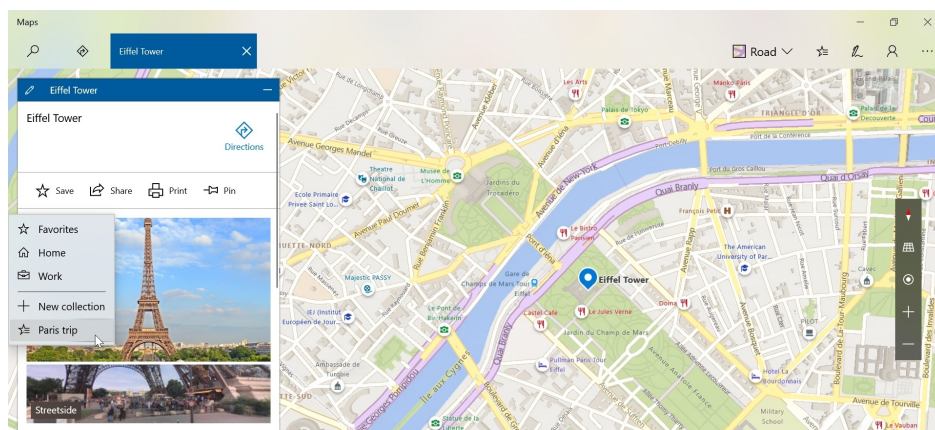
Select "New Collection."



In this window, supply a name for the collection (like "Paris trip") and, optionally, a description and whether this collection should be private (and not something you'll share with others). Then, select the Save button. The new collection appears in the Collections view.



Now, navigate in Maps and find a location that you would like to add to the new collection. For example, the Eiffel Tower. To add this location to the collection, select Save and then the name of the collection (“Paris trip”). It will be denoted on the map with a blue star.



Then, repeat as necessary, adding more places as you research the area.

To view your collection, navigate to Saved places, Collections > [Collection name] (“Paris trip”). The places you’ve collected will be clearly marked on the map.

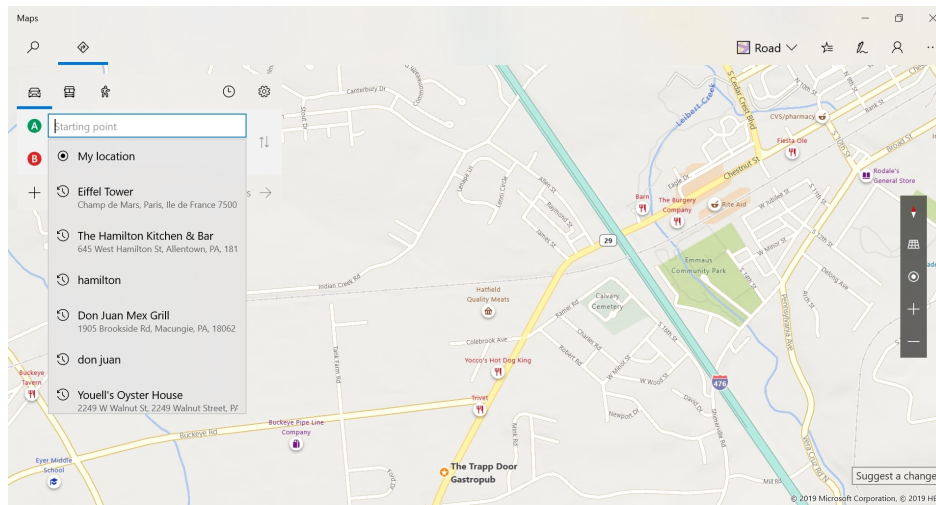
## Get directions

To get driving, transit, or walking directions, select the Directions button in the top left of the app window. When you do, the Directions user interface appears.



You can also type CTRL + D to display Directions.





By default, this view includes an drop-down list of previously-viewed and configured locations as a convenience. But if the place you wish to navigate from is not in the list, you can search for the correct location.

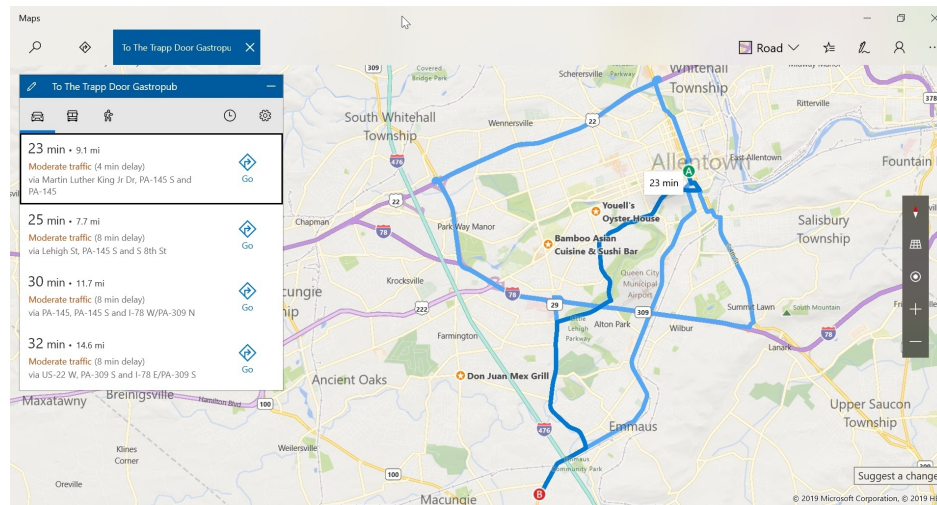
Next, select the Destination box and find the place to which you'd like to go.

If you're familiar with web- or phone-based maps apps, you understand the basics: You can add destinations for a multi-stage journey, choose between driving, public transportation, and walking directions, configure departure time options, and more.



But Maps provides a few unique niceties as well. You may recall that when you save a favorite place, you can give it a nickname, and you can use that nickname in Directions to quickly find such places.

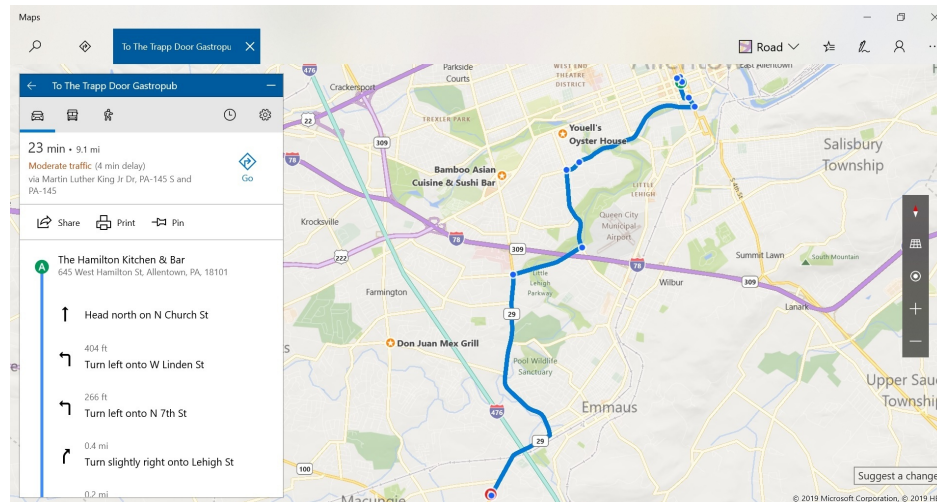
Maps will also provide multiple route choices in many instances, giving you the chance to choose the one that works best for you.



You can also select the Route options (gear) icon to select from a list of things you may wish to avoid, including toll roads, unpaved roads, and more. (Avoiding traffic is assumed.)

## Navigate to a destination

When you're ready to go, you can use Maps to navigate to the destination you chose in Directions. Just select the Go button in the Directions pane.



This works as expected, and is similar to other navigation solutions you might use with your phone. But this functionality obviously doesn't make much sense on a PC. Fortunately, you can also send the directions to your phone, as described in the next section.

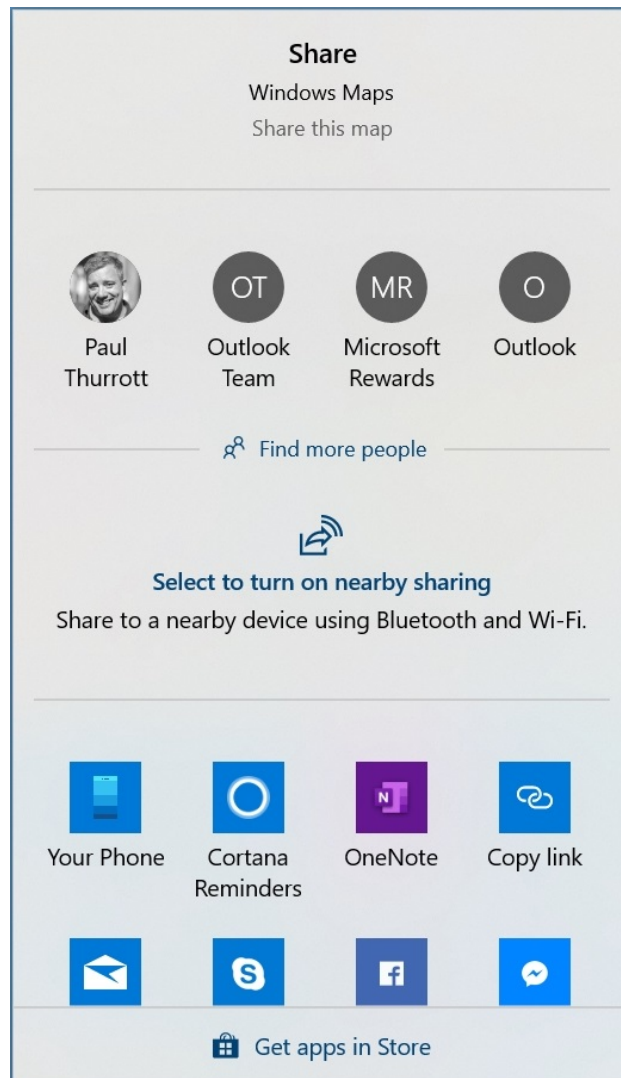
## Send directions to your phone

As a PC-based solution, Maps is great for doing research about restaurants, attractions, and other places of interest. But at some point, you will actually leave your PC behind at your home or the

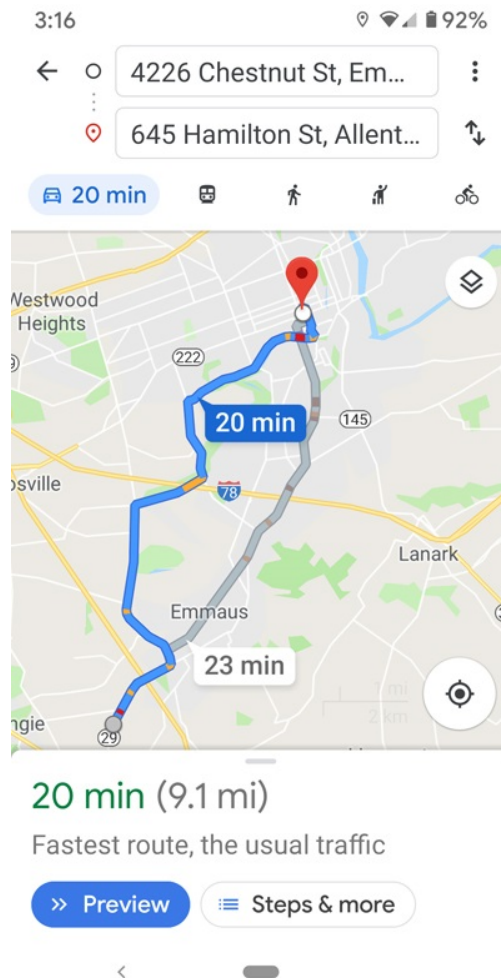
hotel and venture out into the real world. And when you do, you will most likely rely on your smartphone to find the places you previously researched with Maps.

Microsoft doesn't provide a version of its Maps app on Android or iPhone. But the Maps app does provides a few different ways to send places and directions to these phones.

To send a place to your phone, find that place with Maps. Then, select More ("..."), in the top right of the app window) and then Share. When you do, the Share pane appears, providing a list of ways in which you can share this information.



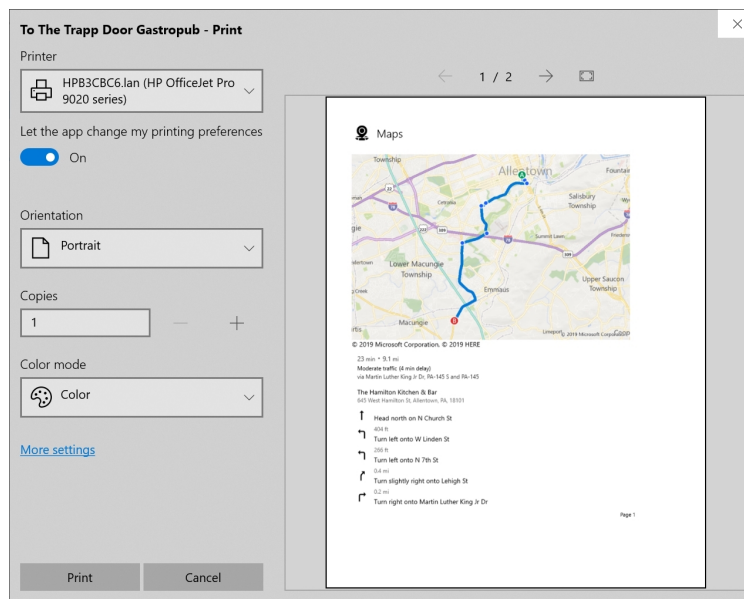
Select Your Phone. This works with Your Phone app that's included with Windows and described in the Phone chapter. Basically, you'll receive a notification on your phone that, when selected, will display that location in Bing. Now, you can tap the "Directions" button to navigate to that location using the default maps app on your phone (typically Google Maps or Apple Maps).



## Print maps and directions

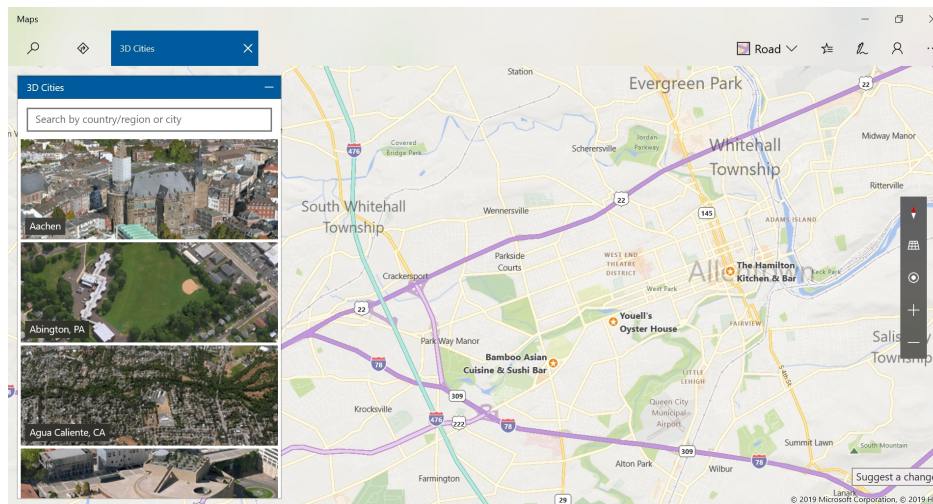
Maps lets you go back in time and print paper-based maps and directions if desired.

To do so, display a place or directions in the app and then choose More (“...”) and then Print.



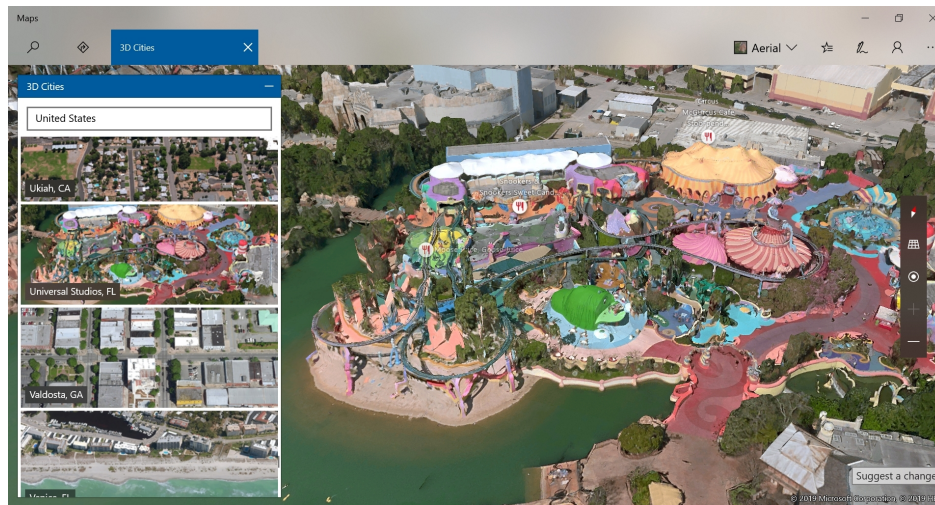
## Explore 3D city views

Maps offers a unique 3D Cities view that lets you virtually explore many popular destination cities in three dimensions. To start exploring, select More ("...") > 3D Cities button in the upper right of the app window. When you do, a 3D Cities pane appears on the left.



Then, select a city from the thumbnail list on the left. After a gratuitous animation, you can virtually fly around the selected city and check it out ... from the air!





## Write on your maps with Ink

A Windows feature called Windows Ink allows those with a compatible PC to write directly on the PC's screen with a smartpen and interact with the system using what is, for many, a very familiar and comfortable interface. The Maps app is among those apps that ship with Windows that provides unique Ink-based functionality.



We cover Windows Ink more extensively in the Windows Ink chapter, of course.

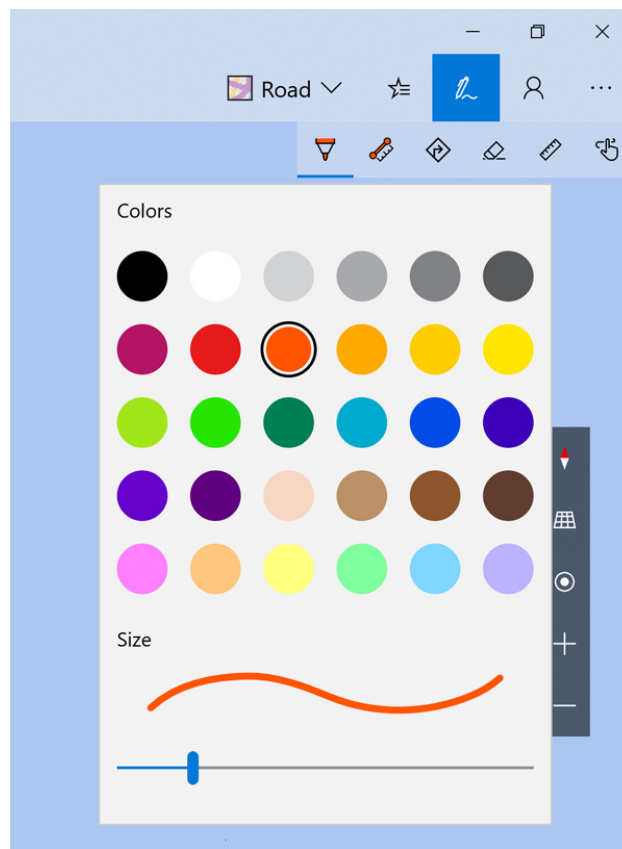
As noted previously, you can simply draw Ink pictures or annotations right on the map surface. To do so, simply draw right on the display.

This can be fun, but there are more useful features available from the Windows Ink toolbar, which you access by selecting the Windows Ink button in the top right of the app window.

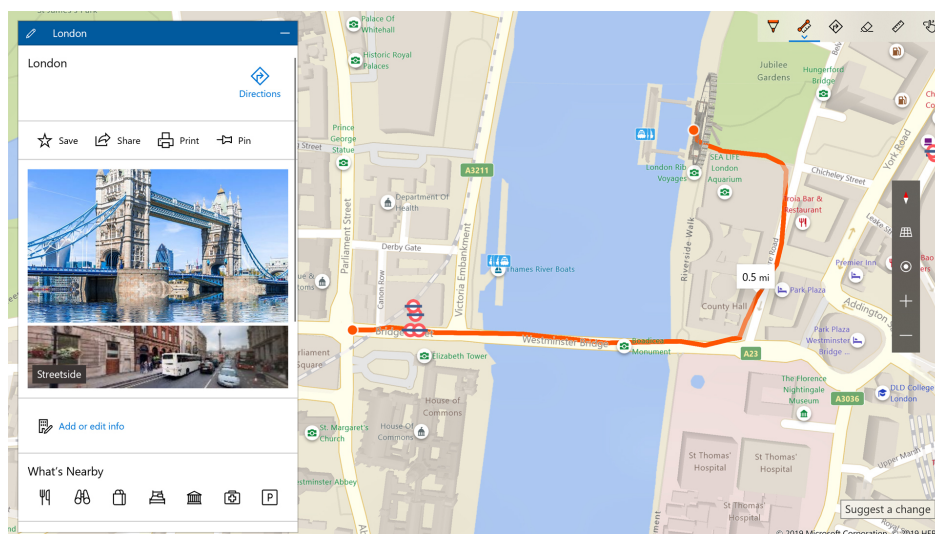


Here's what's available.

**Ballpoint pen.** The first tool, called Ballpoint pen, lets you configure the color and size of the virtual pen tip that will be used when you draw or write on the screen. When this is selected, any Ink you apply to the screen is considered a drawing.

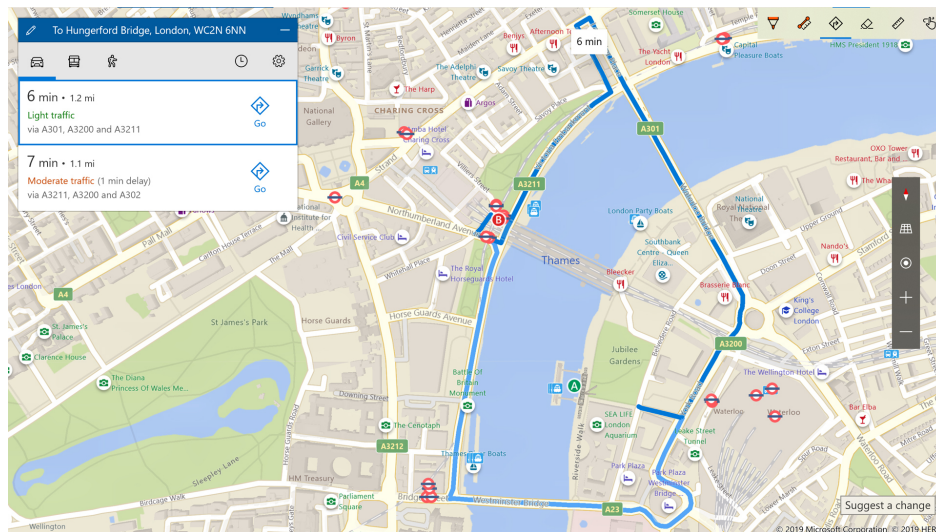


**Measure distance.** The second tool helps lets you measure the distance along a path that you draw on the map. As with Ballpoint pen, you can configure the color and size of the pen used to draw this path. But the real magic here, of course, is the distance calculation: Just draw the path and Maps will tell you the (approximate) distance.



**Directions.** The Directions tool works as expected: With this tool selected, draw a line from a

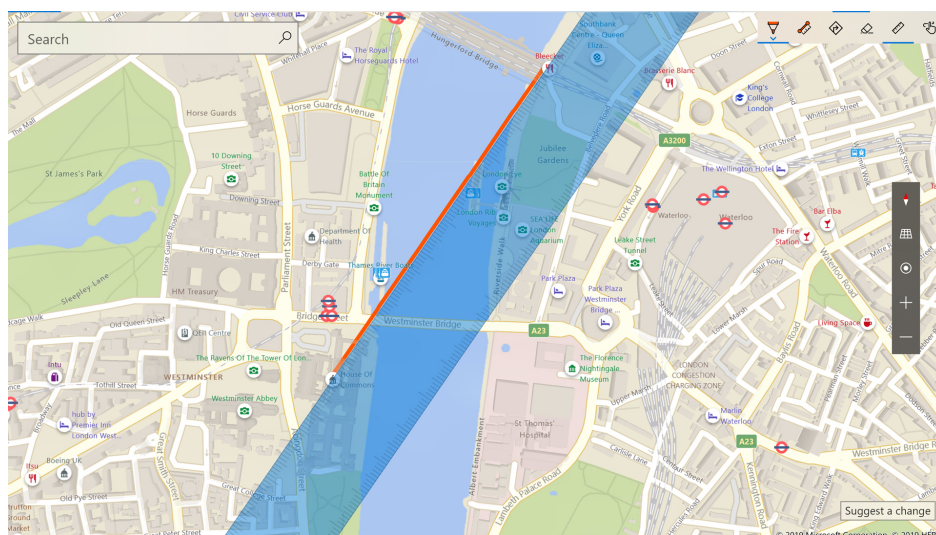
starting location on the map to an ending location. (You can even plot multiple destinations if you'd like.) Then, Maps will plot the best path, and tell you how far you'll be traveling.



What's amazing about the Directions tool is that you can draw a straight line between locations and then Maps will plot it correctly using the most efficient streets.

**Eraser.** The Eraser is for those with pens that don't have built-in hardware erasers. When enabled, your pen tip will act as an eraser instead of a pen, and it will erase any of your previous Ink strokes when you tap them.

**Ruler.** This tool will correct a chicken-scratched line between two points into a perfectly-straight line by providing an on-screen ruler.





**Touch writing.** This tool lets you switch from pen mode to touch mode: In this mode, you can use your finger (on a touch display) or your mouse to access the other Windows Ink features in Maps.

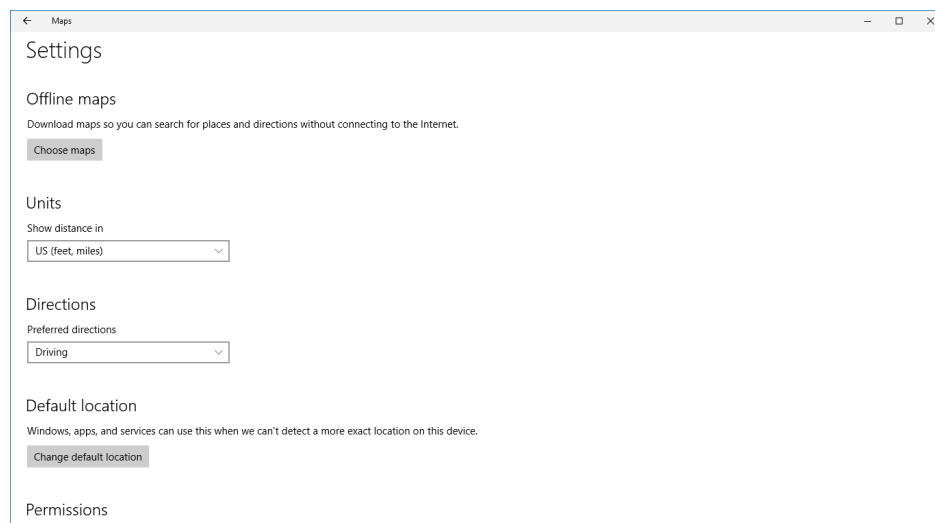


Though they're just much harder to use with touch or the mouse, most of these tools are available on PCs without smartpen support. Touch writing requires a touch screen.

## Configure Maps

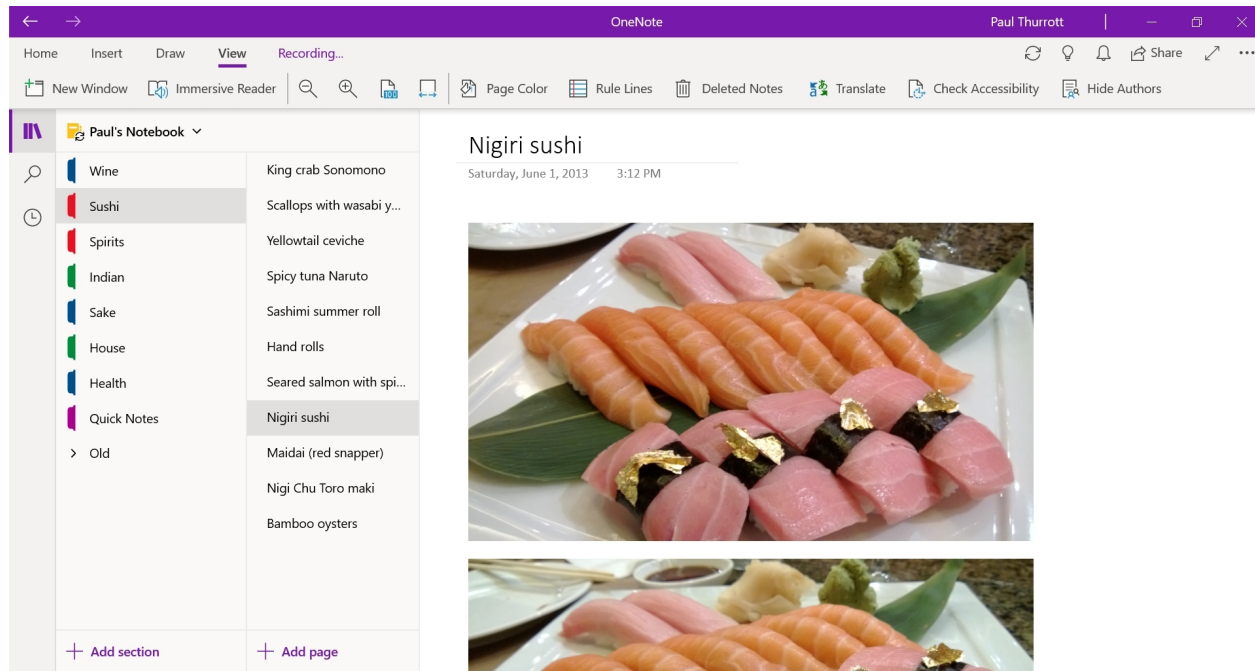
Maps offers a variety of configurable options that you can configure.

To access Maps settings, open Maps and select More (“...”) and then Settings.



Most of this should be straightforward. But it's worth a quick pass through the various options to make sure that Maps is configured as you prefer. For example, you may wish to not save searches, or change your location privacy. And the Map theme option—unrelated to and separate from the app mode, or “theme”—lets you switch between a light and dark map.

# OneNote



OneNote is a digital notebook app and free, cross-platform service. It provides great organizational and collaboration capabilities, and lets you mix and match content types such as text, audio notes, videos, files, and even Windows Ink-based digital handwriting.

And because your OneNote content is stored in the cloud, your notes are available available from anywhere: You can access your notes from your PC, your smartphone, or the web.



OneNote *requires* a Microsoft account. If you sign-in to Windows with a local or domain account, you will need to configure the app for your Microsoft account before you can use it.

## Get to know OneNote

OneNote is a relatively simple-looking app, but provides every note-taking feature you'll ever need and uses a logical organizational structure.

## Understand how OneNote works

OneNote provides a digital representation of a physical, paper-based notebook. As such, the app is structured with a notebook-like hierarchical organizational structure.

The *notebook* sits at the top of this organizational structure. OneNote creates a starter notebook for you, which is named after your Microsoft account name, so mine is called *Paul's Notebook*. But you can create any number of notebooks in OneNote and organize them as you will.

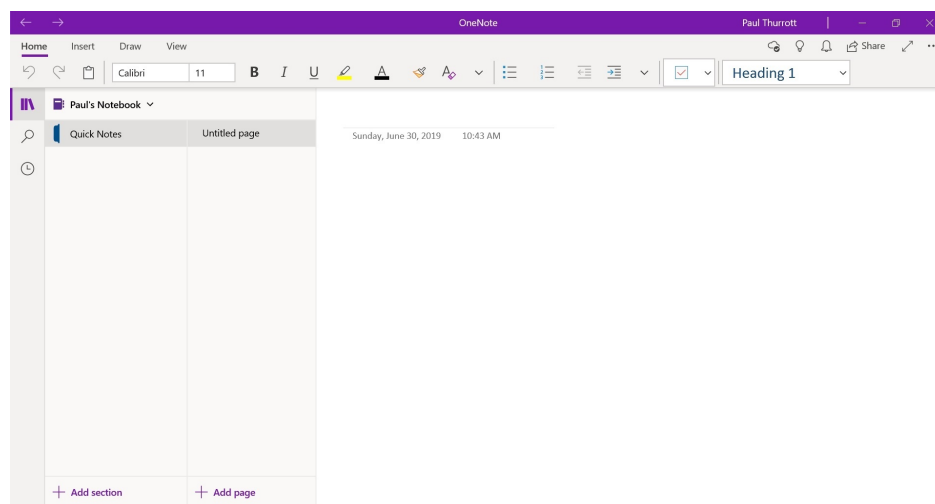


If you're familiar with Excel, it's fair to say that OneNote's *notebooks* are similar to Excel workbooks in that each one is a container, similar to a file, for content that can be further organized.

Each notebook is divided into *sections*. These can be organized to your liking as well. For example, I have a OneNote notebook called *Meeting notes*, and I use sections for each year (2019, 2018, and so) to keep things organized.

Inside of each section, you will create *pages*, which represents the individual pages in a paper notebook. In that Meeting notes notebook I mentioned above, each meeting for which I take notes has its own page.

Here, you can see OneNote in its most basic form: A single notebook called *Paul's Notebook*, with a single section called *Quick Notes*, which contains a single untitled page.

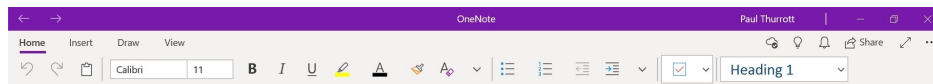


OneNote is similar in many ways to traditional Microsoft Office applications like Excel, PowerPoint, and Word. But there is one major difference: While there are technically files in the cloud that represent your notebooks, OneNote is not file- and document-based. So, there are “Save” or “Save As” commands to worry about. Instead, OneNote automatically saves your notes to the cloud as you go.

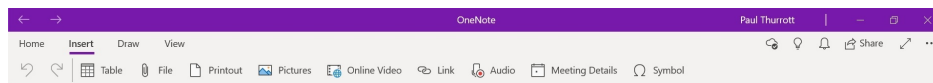
## Navigate around the OneNote app

OneNote is simple enough once you understand its organizational structure and auto-save functionality. The app features a simplified ribbon interface—basically, a tabbed toolbar—that provides quick access to frequently-used functionality. The four primary tabs are:

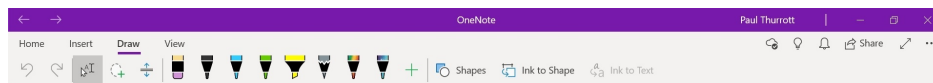
**Home.** Here, you will find formatting commands for your text-based notes.



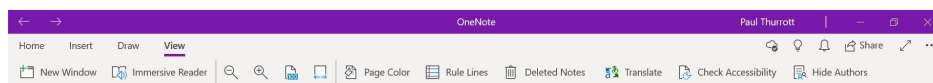
**Insert.** This tab lets you insert the many objects—tables, files, printouts, pictures, and more—that OneNote notes can contain.



**Draw.** This tab is mostly useful to those who wish to use a smartpen to create handwritten notes and drawings using Windows Ink. It provides pen commands, pen tips, and other smartpen-based capabilities. (Many of which also work, if less efficiently, with touch.)



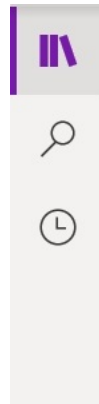
**View.** As its name suggests, the View tab provides note reading features like OneNote's Immersive Reader, translation capabilities, and more.



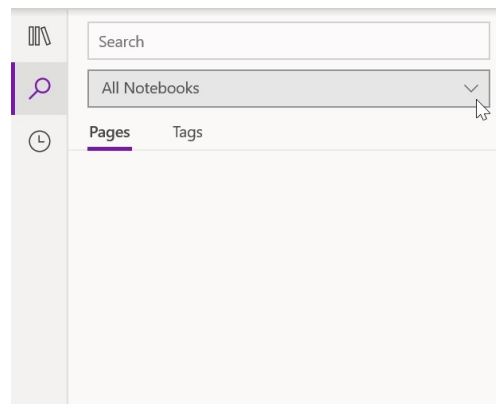
## Customize the display

By default, OneNote uses a multi-pane interface that makes it easy to move between notebooks and the sections and pages that each contains. But you can change this display to access certain OneNote features or to give more on-screen real estate to the page you're currently using.

The thin, left-most pane, called the navigation pane, you can access two OneNote features, Search and Show Recent Notes, in addition to the normal navigation view in which you can see a notebook and its sections and pages.

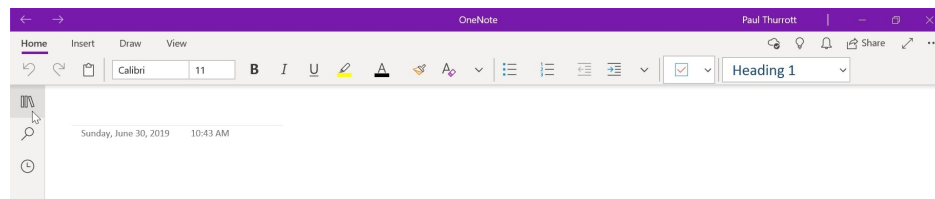


Each of these features works as you'd expect: Search can find text—and even text within pictures—across all of your notebooks or within a specific notebook, section, or page.

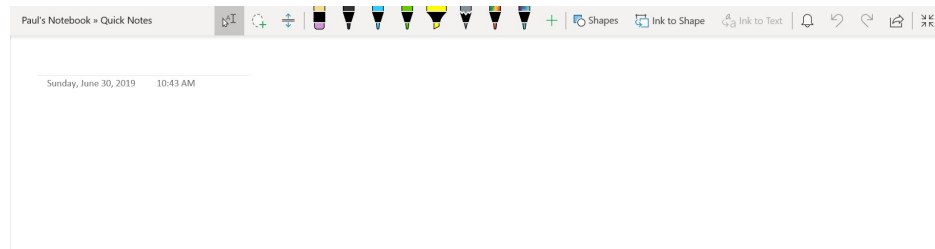


And Show Recent Notes provides a handy display of the pages you've most recently accessed in chronological order.

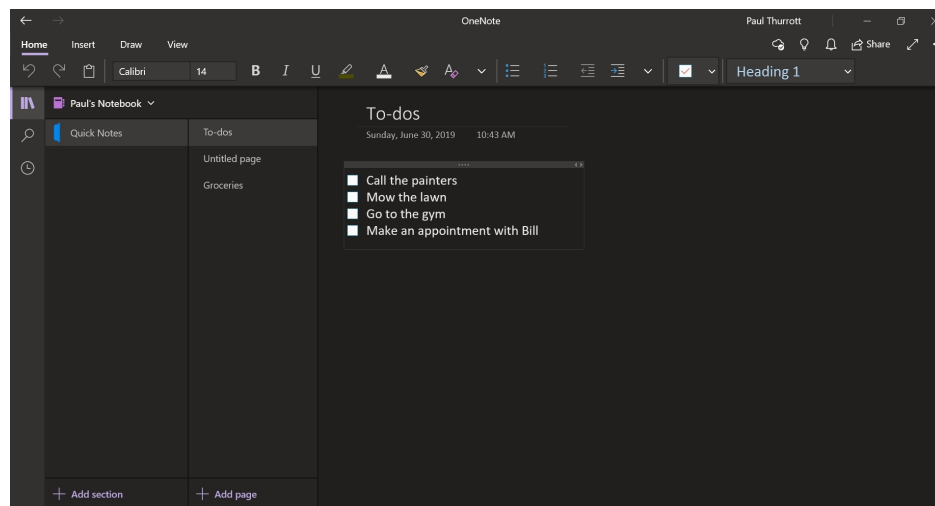
The navigation pane also works like a toggle, so that you can select it to display only the currently-selected page, and then select it again to also display the navigation pane, and the notebook, Search, or Show Recent pane.



OneNote also supports a full-screen mode, which is accessed by the Full Screen Mode button in the upper right of the application window. In this mode, OneNote occupies the entire screen and displays only the current page and the Draw tab, making it a useful choice for smartpen-based note-takers.

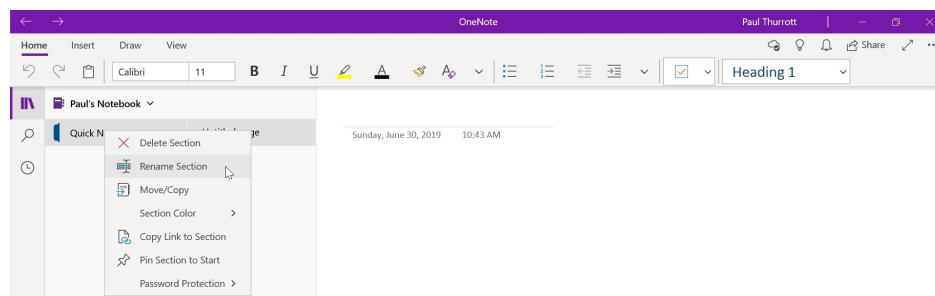


Finally, OneNote supports the Windows 10 Dark mode for apps. If you have configured Windows 10 to use Dark mode for apps, OneNote will use Dark mode as well. (You can also configure OneNote to use Dark or Light mode explicitly and regardless of the OS setting in OneNote Settings > Options.



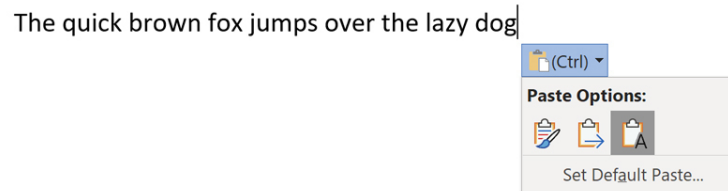
## Right-click is your friend

Throughout OneNote, you can right-click—or, with touch, tap and hold—on items to display a context menu with additional choices. For example, when you right-click a section tab, you are presented with options for deleting or renaming the section, applying a new color, and more.



Related to that, if you're familiar with how the pasting of content works in traditional Microsoft Office applications like Excel, PowerPoint, and Word, you need to be aware of a critical difference in the way that OneNote works.

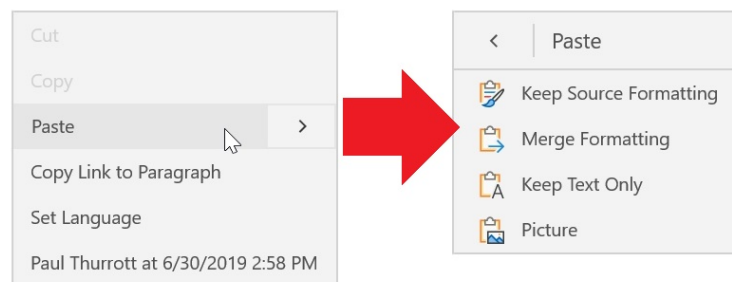
Traditional Office applications provide a Paste Options pop-up when you paste content in from elsewhere. This pop-up lets you choose *how* an object is pasted—for text, you can choose between keeping the source formatting, merging the formatting, and plain text—and configure how paste works by default.



What's interesting about the pop-up is that it lets you change how something is pasted *after* you paste it. Those Office applications will apply the default paste behavior but then let you make a change after the paste.

OneNote works differently and is, frankly, less sophisticated.

With OneNote, you can configure the default paste option in Settings > Options, but there's no Paste Options pop-up to modify a paste after the fact. So, if you need to change how text or some other item is pasted into a OneNote-based page, you must right-click and choose Paste and then how you would like the item to be pasted.



But you must do this *before* you paste the item, as OneNote doesn't let you make any changes afterward.

## Create and manage notebooks and sections

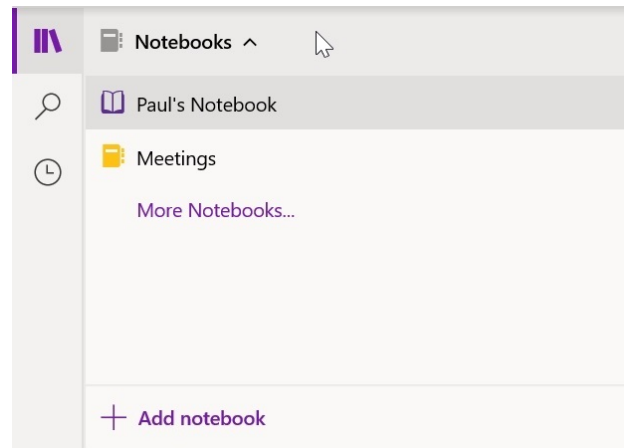
To restate the earlier description of the hierarchical nature of Microsoft's note-taking solution, OneNote contains notebooks, each of which contains sections, each of which contains pages. Notebooks are cloud-based files associated with your Microsoft account, and you can create and use as many as you'd like.



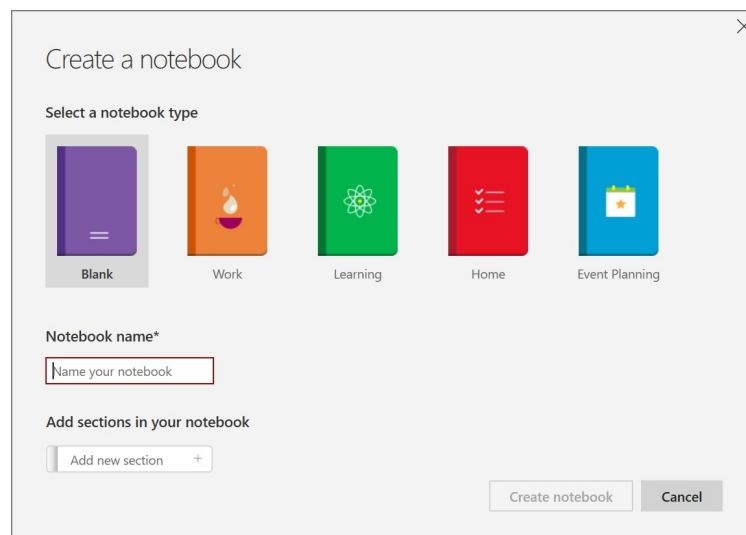
And, no, you cannot use OneNote to create or manage notebook files that are local to your PC or another device. OneNote only works with cloud-based notebooks that can be accessed from any device, and not just from a single PC or device.

How you organize the information you store in OneNote is up to you. But here's what you need to know to create new notebooks and sections in whatever organizational scheme you prefer.

To create a new notebook, select the current notebook at the top of the notebook pane. The pane changes to reveal the other notebooks, if any, that are associated with your Microsoft account.

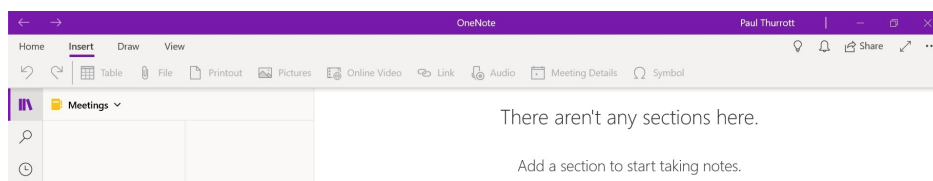


Then, select “Add notebook” at the bottom of that pane. The Create a notebook window appears.

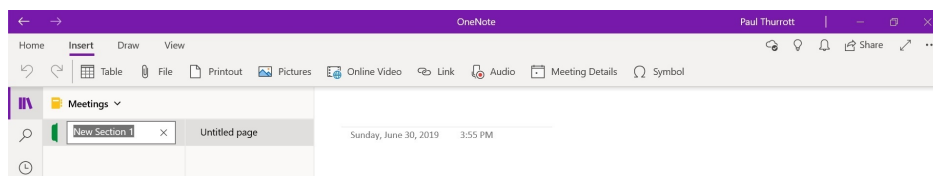


Choose “Blank” or one of the themed notebook types, give the notebook a name, and optionally pre-populate one or more sections. Then, select Create notebook. The new notebook is now displayed in the notebook pane.





To create a new section inside of a notebook, select “Add section” at the bottom of the notebook pane. A new section appears under the current notebook and its default name, *New Section 1*, is highlighted so that you can name it.

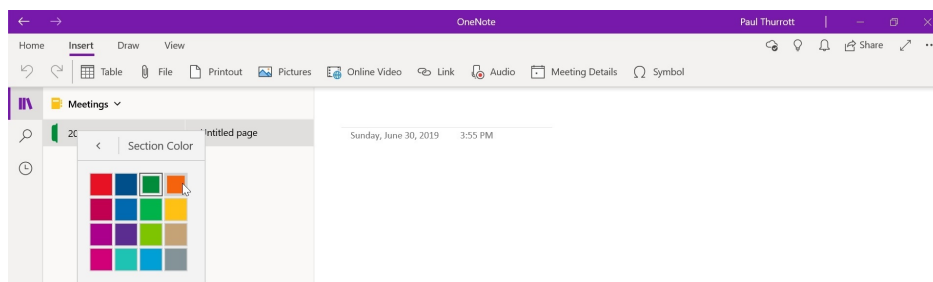


Name the section and type ENTER.

There are a few more things you can do with notebooks and sections:

**Rename it.** The name you give to a notebook is final, but you can provide a new nickname for it at any time, effectively renaming it within OneNote. Sections can be renamed at any time. In either case, right-click to find the appropriate option.

**Assign a new color.** Notebooks and sections are both given a unique color at creation time, but you change this color at any time. To do so, right-click the item and choose “Notebook Color” (or, as appropriate, “Section Color”) and then select a color from the color grid that appears.



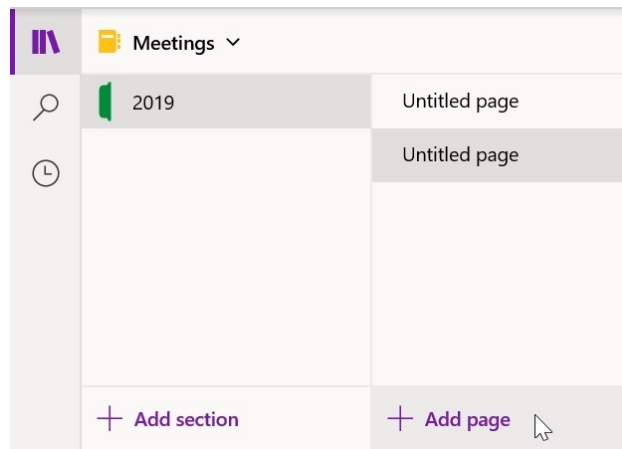
**Change its display order.** Using drag and drop, you can change the position of any notebook in your list of notebooks. Likewise, you can change the position of any section within a notebook.

## Create and manage pages

Most of your time in OneNote will be spent creating and managing pages, or what many will likely just think of as *notes*. These pages can consist of plain and formatted text with various emphasis and markup additions, to-do lists, tables, pictures, audio recordings, handwritten notes and drawings, and much more.

## Create a new page

To create a new page, open the correct notebook and navigate to the section in which the new page will appear. Then, select “Add page” at the bottom of the Pages list. A new page, called Untitled page, appears.



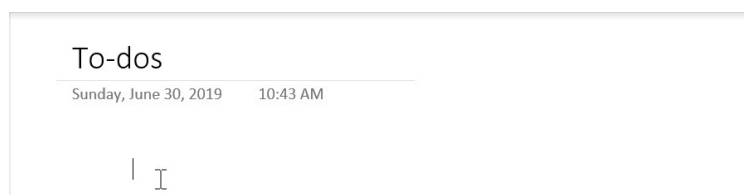
From here, you can access a long list of options, all of which can be found by right-clicking the page. Some key options include:

**Rename the page.** As with a section, you can rename a page at any time.

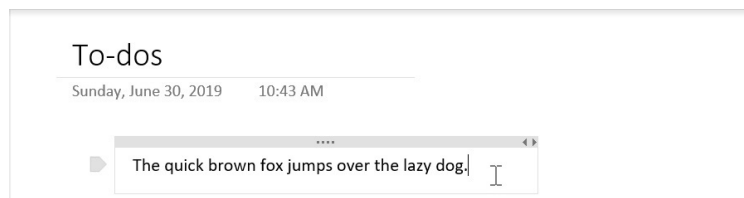
**Move/copy the page.** Using the Cut, Copy, and Paste commands—or the simpler Move/Copy command—you can copy or move any page to any other section, even one that is in another notebook. You can also use drag and drop to change the position of a page within the same section.

## Edit a page

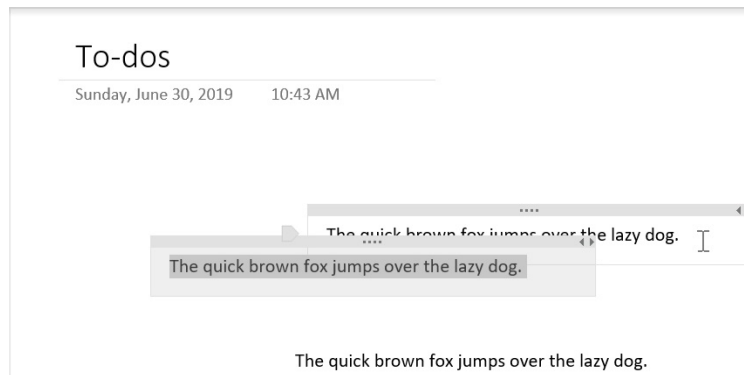
OneNote offers all of the word processing-like editing features you expect, but with a few twists. The strangest, perhaps, is that each page doesn't behave like a single document. Instead, you can arbitrarily select any area inside the page. When you do, the insertion cursor appears at that location.



If you start typing, OneNote will create a block that will contain the text and other items that you add.



A page can contain multiple blocks, and you can grab them and move them around if you'd like. You can also resize them and Cut/Copy and Paste them.



If you find this notion of blocks to be confusing and unnecessary, just select the page's name field at the top. Then, type TAB. The insertion cursor will be placed in the upper left of the page and you can just start typing normally.



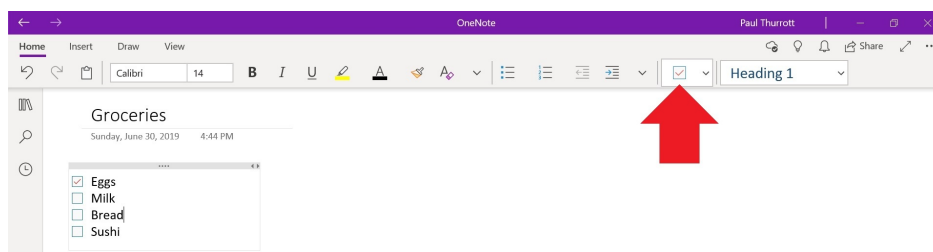
The nice thing about blocks is that they let you quickly and easily delete a entire block of text and other items: Just select the block and type DELETE.

OneNote lets you change fonts, use familiar text formatting like bold, italic, and underlining, highlight and color text, and more. There are also bulleted and numbered lists, text styles and more. This all works similarly to the same features in Microsoft Word and other word processors.

## Do more with a page

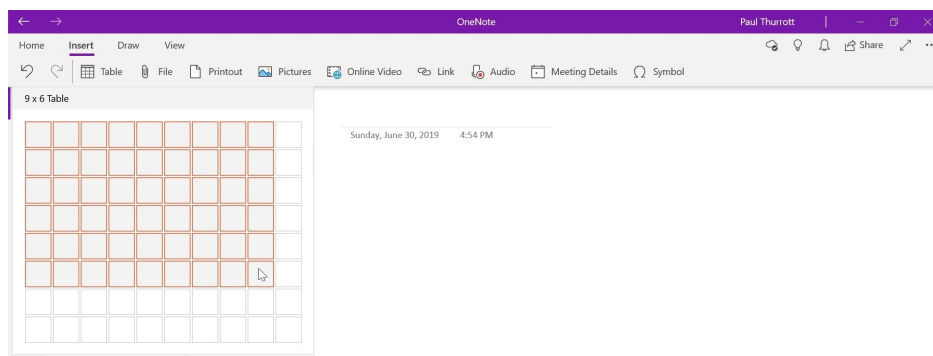
Beyond basic text-based note-taking, OneNote provides an amazing array of functionality that you should find useful. Some key features include:

**To-do lists.** OneNote supports to-do list creation and complete via the To-Do command in the Home tab. This way, you can make a to-do list, say for groceries or similar, and then mark the items done as you go using OneNote on your phone.



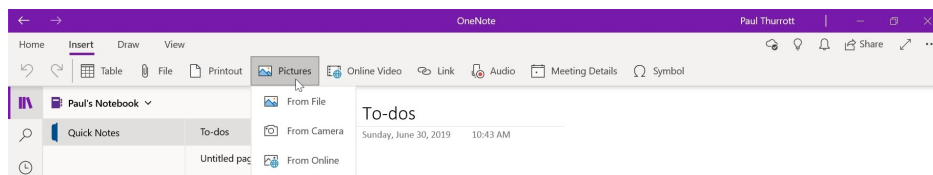
**\*\*Mark an item \*\*** You can mark lines or blocks of text—or a to-do item as being important or a question. This places a little star or question mark next to the item, respectively, visually highlighting it. You can also mark an item as being something you want to remember later; this highlights the item in yellow to call it out.

**Insert a table.** The Table command on the Insert tab helps you visually insert a table into your notes by supplying a grid of cells that represents the table you'll be inserting. Just highlight the number of rows and columns you want.



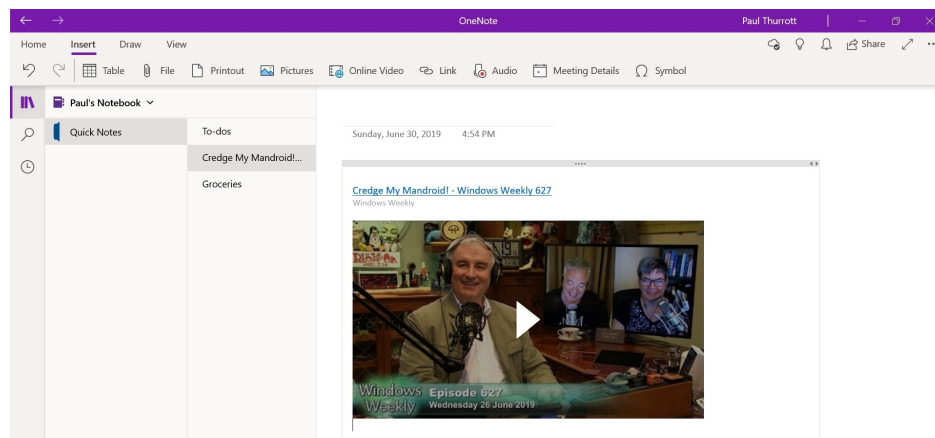
**Insert a file.** Using the File command on the Insert tab, you can insert any file into your notes, either as an attachment—in which case the original will need to be available—or as a OneDrive upload with a link.

**Insert a picture.** OneNote Mobile lets you add a picture from your PC, your PC's camera, or from an online source, the latter of which presents a Bing search pane so that you can find what you need.

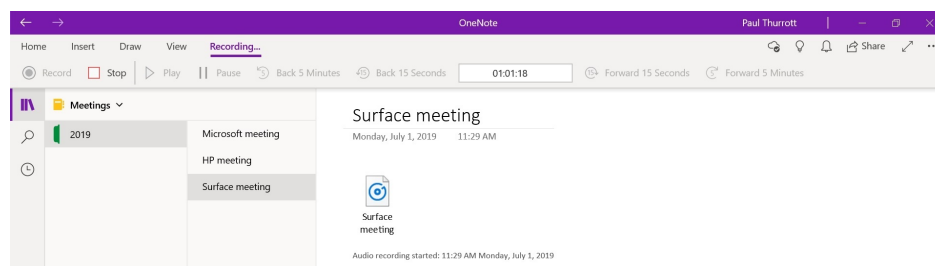


You can also simply drag and drop a picture file from your PC directly into a OneNote page.

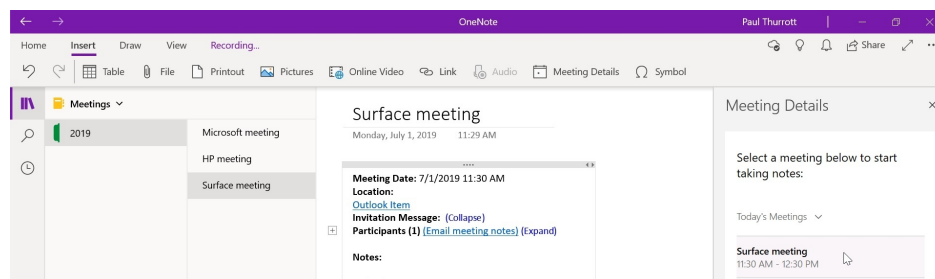
**Insert an online video.** If you find a video online at YouTube or any similar service, you can embed that video in a page and play it back at any time, as long as the PC is online. All you need is the video's URL.



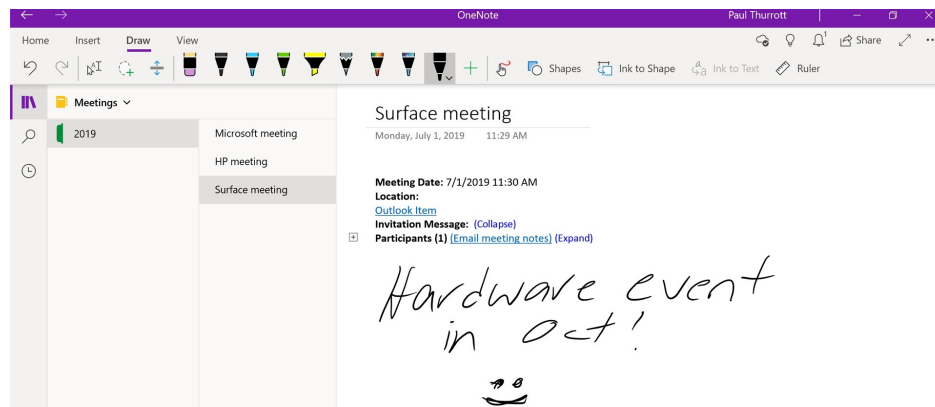
**Record audio.** OneNote's ability to record a meeting while you are taking notes is one of its best features. The app provides a nice Recording tab and ribbon while recording the audio, and also when you later play it back.



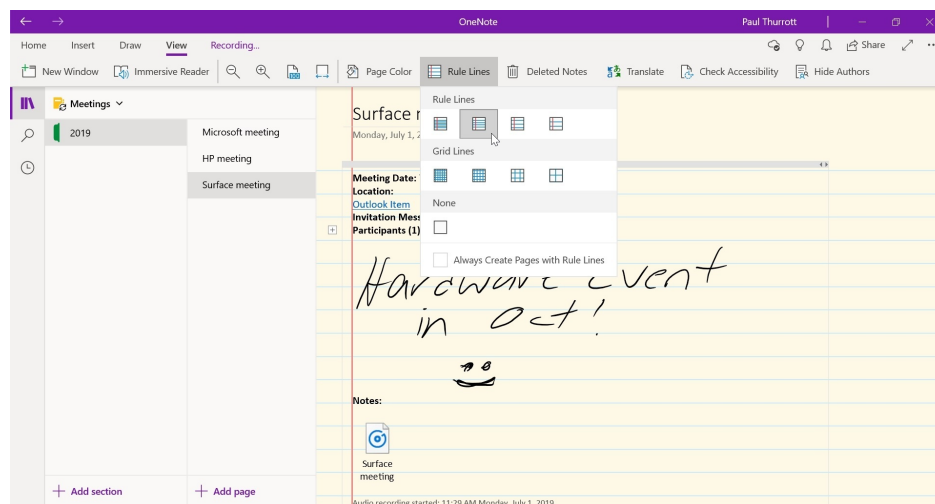
**Attach notes to a meeting in Calendar.** This is another great feature for those who use OneNote to take notes in meetings: You can link notes to a meeting in your Outlook.com or Office 365 calendar.



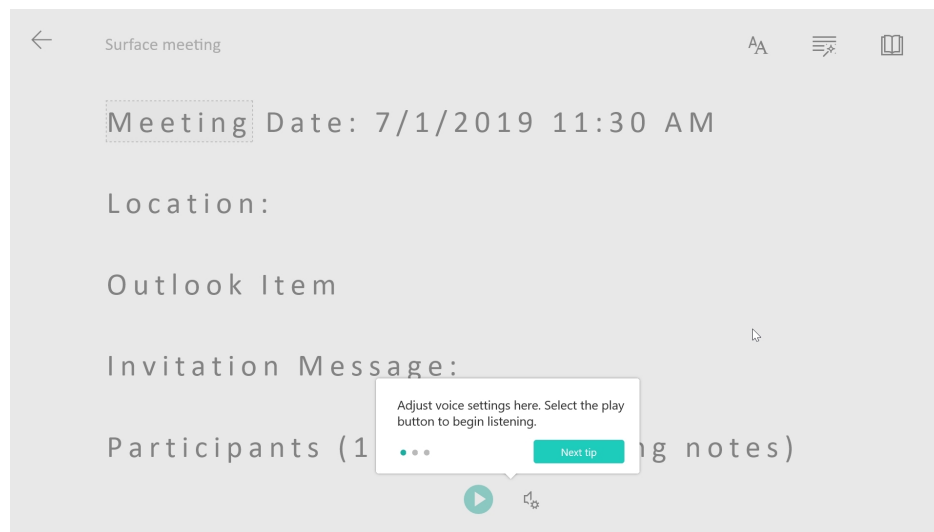
**Use Windows Ink to take handwritten notes or draw.** Those with a smartpen and compatible PC can use that pen to draw or take notes directly on any OneNote page. This is an interesting choice for those who prefer to take notes this way or like to sketch.



**Change the look of a page.** In the View tab, you can access three commands—Page Color and Rule Lines—that can dramatically change the look of any page.



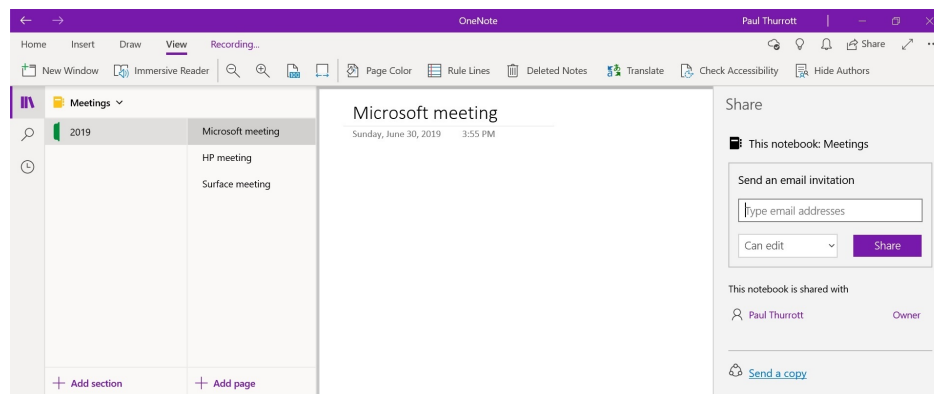
**Read with Immersive Reader.** OneNote supports Microsoft's Immersive Reader technologies, which presents an immersive reading experience, as advertised, that helps you understand any text by reading it aloud and highlighting the read words as it goes. This is particularly useful in education, or in circumstances where unfamiliar or even foreign languages are used.



## Share a page

OneNote Mobile lets you share a page with others so that they can read your notes or collaborate with you.

To share a page, navigate to that page and then select the Share button in the upper right of the app window. The Share pane appears.

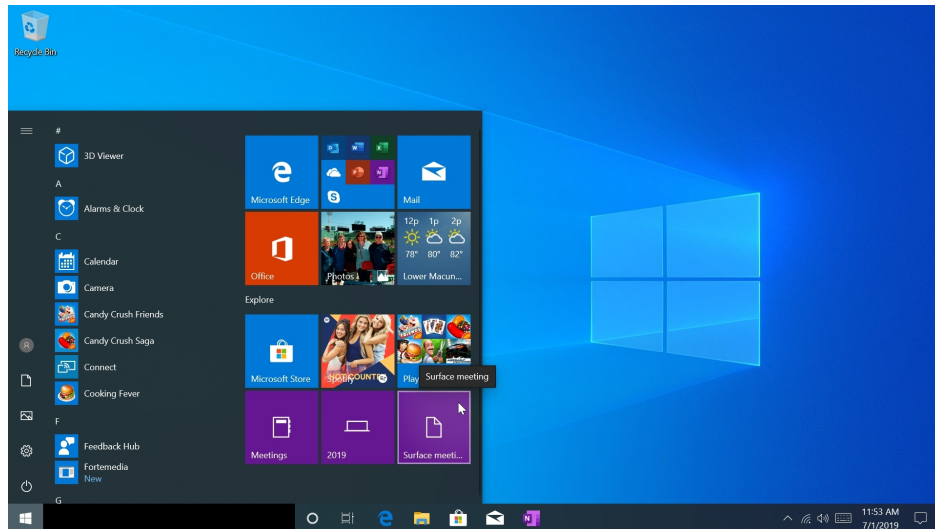


Here, you can invite others to access the page via email. You have two choices: “Can edit,” meaning that the invitee can edit the notes in addition to reading them, and “Can view,” so that the invitee can only read them. In either case, the invitee will need to use OneNote on Windows, the Mac, the web, or mobile to read and/or edit the page.

You can also simply send a copy of the notes to someone via any compatible Windows app, including Mail and Skype. This copy is not connected in any way to your original notes.

## Pin a notebook, section, or page to Start

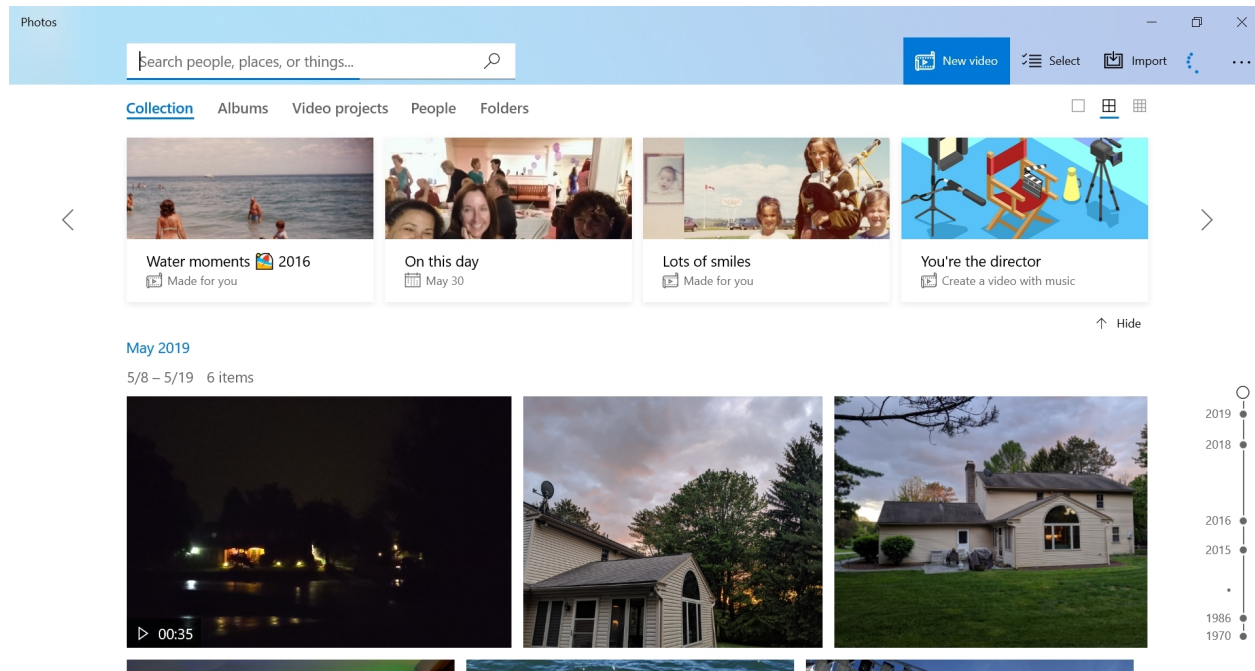
OneNote allows you to pin any notebook, section, or page to Start so that you can access what you want more quickly. To do so, right-click on the item and then choose Pin to Start from the pop-up that appears. After confirming that you wish to do so, you will find your pinned items on Start.



Unfortunately, you can't pin a notebook, section, or page to the taskbar.



# Photos



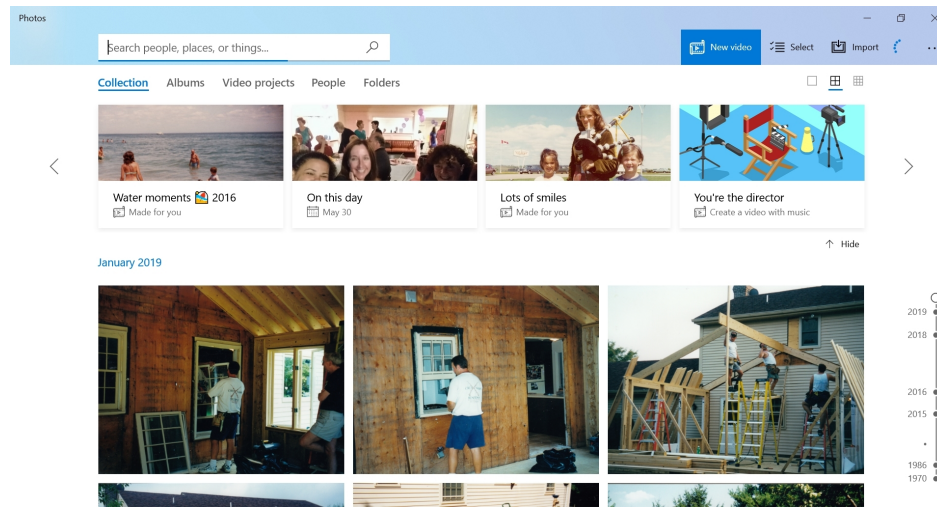
The Photos app lets you view, edit, and manage photos on your PC and in OneDrive, and create and share fun videos based on your photos and personal videos.

## Get to know the Photos app

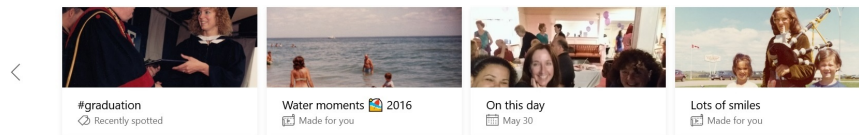
Photos presents a simple user interface with five primary views: Collection, Albums, People, Video projects, and Folders. There is also an Import capability so you can import photos from elsewhere into your collection.

### The Collection view

The default view, Collection, is a consolidated view of your photo collection. This can include content from your local PC, other PCs, and OneDrive.

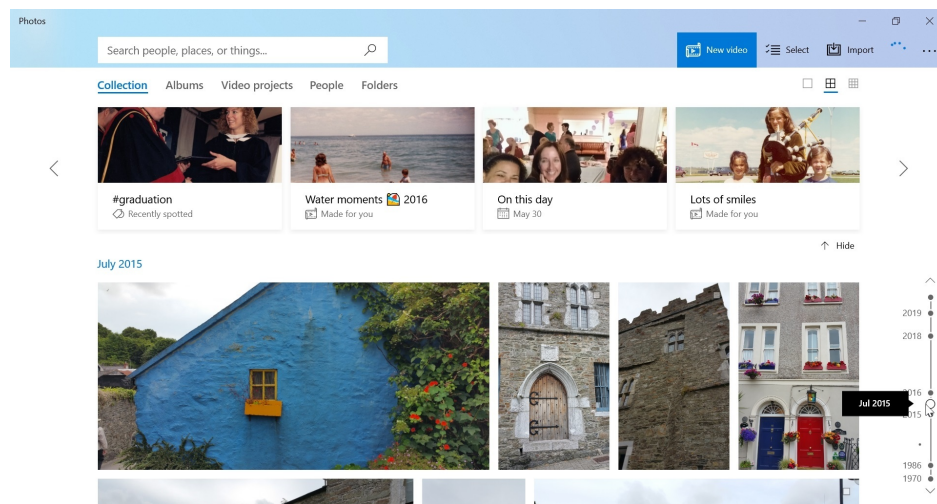


At the top of the Collection view is a row of tiles created by the Photos app and representing such things as “On this day” retrospectives, weekend recaps, automatically created albums, and more. You can hide this row if you don’t find it useful or interesting.



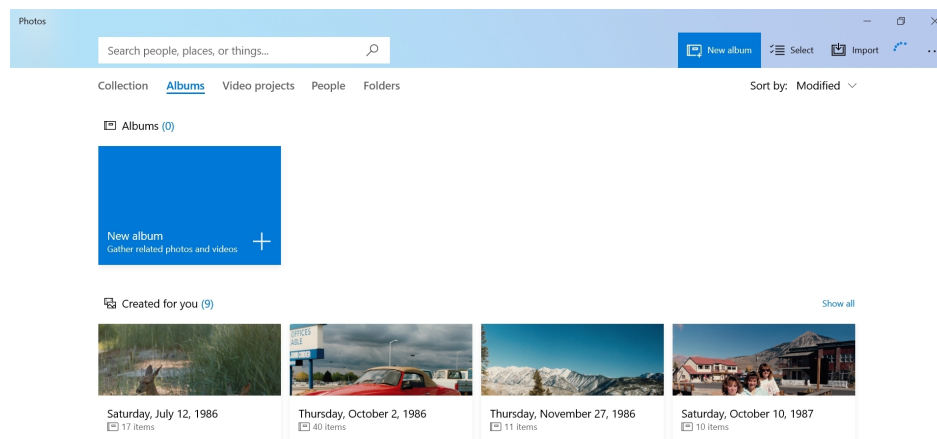
If you mouse-over a tile that was made for you by the Photos app, you’ll be presented with View and Keep options. Use the latter if you would like to save this tile as an album, which will then be accessible from the Albums view.

Below that is your collection, sorted by date, with the newest photos at the top and displayed in thumbnails. You can choose between large, medium (the default), and small photo thumbnails, and scroll down the timeline on the right to “go back in time” through your collection.



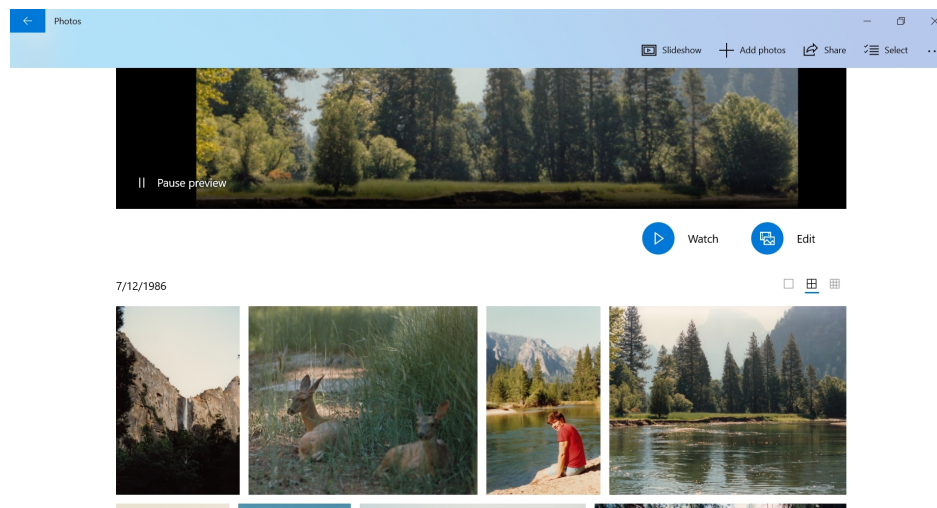
## The Albums view

The Albums view contains albums, which are selections of related photos and home movies. Some were created for you automatically by OneDrive, but you can also create your own.



If you mouse-over an album that was made for you by the Photos app, you'll be presented with View and Keep options. Use the latter if you would like to save it permanently.

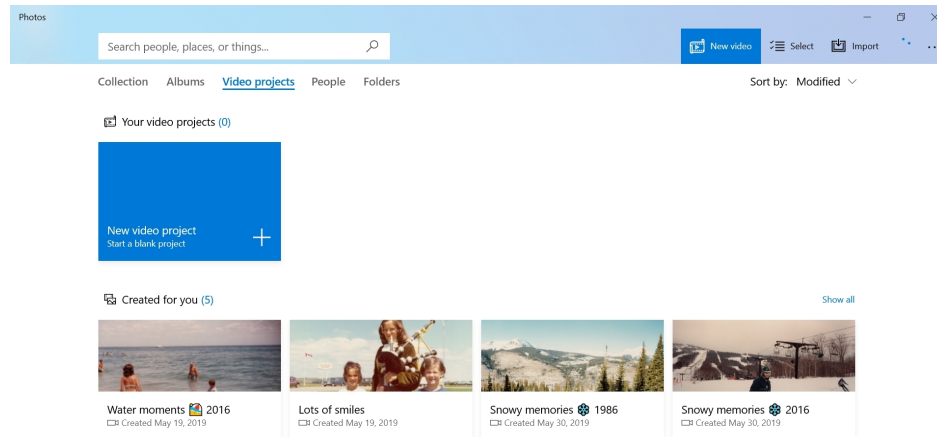
To view an album, simply select it in the Albums view. The album will take over the full app display with a preview slideshow of the photos it contains animating at the top. From here, you can scroll down to view all the photos as thumbnails, select the Watch icon to view the album as a full screen slideshow, or select the Edit icon to use the photos in this album as the basis for a video project.



You can also add photos to the album, share it, remove it, or view it on the web from this view.

## The Video projects view

The Video projects view contains any video projects you've created with the Photos app and provides a way to create new video projects, which can be customized with a theme, background music and other audio, filters, and text, motion effects, and more.



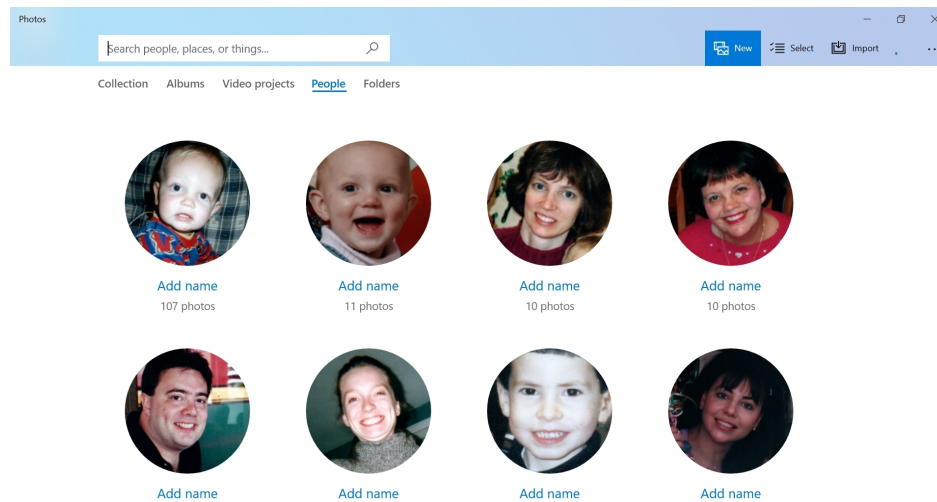
Photos can also make automatic videos for you that you can later edit as desired.



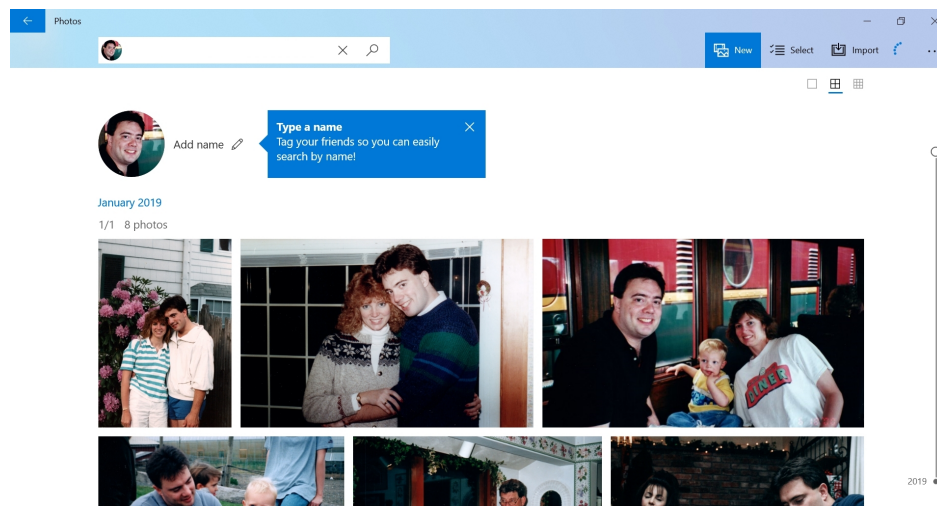
The Photos app's video creation functionality is surprisingly full-featured and is covered later in this chapter.

## The People view

The People view lets you view photos of family members, friends, and other individuals who frequently appear in your photos. You will need to identify, or *tag*, the people that Photos finds so that they will be arranged automatically.



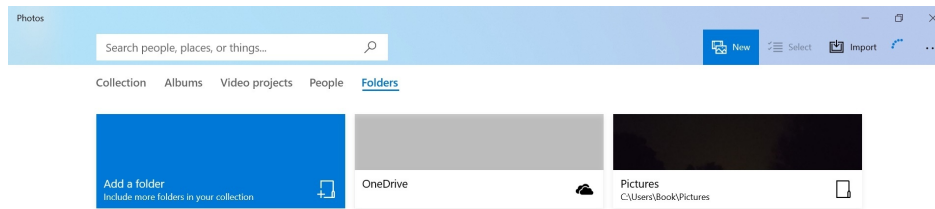
When you select a person in this view, an album-like view appears, displaying all of the photos in your collection that have been identified as being that person.



## The Folders view

The Folders view lets you examine your photos the old-fashioned way, by navigating through the folders—including cloud-based OneDrive locations—in which your photos are stored.

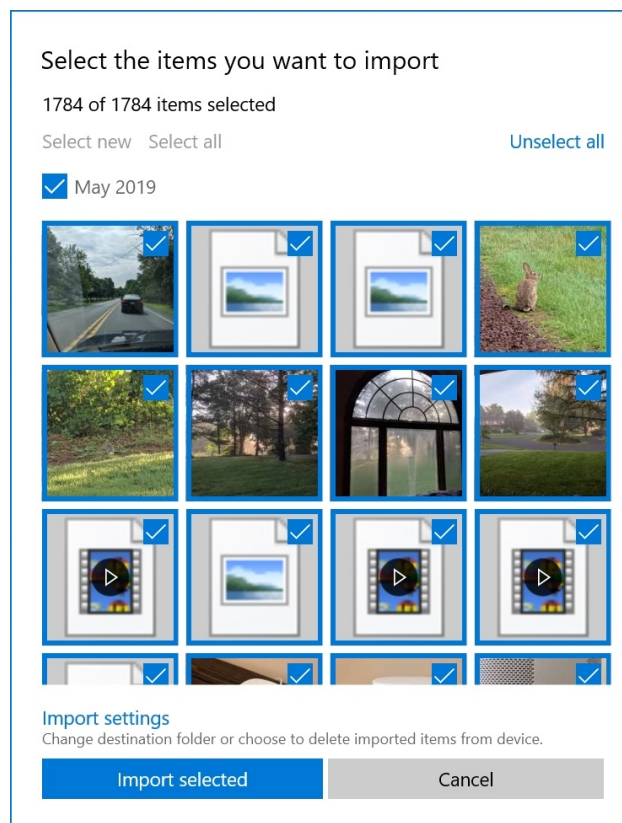




You can also view your photo-containing folders using File Explorer, of course. But this consolidated view in the Photos app is handy because you can see them all in one place, where the individual folders might be located in different places in File Explorer.

## Import photos

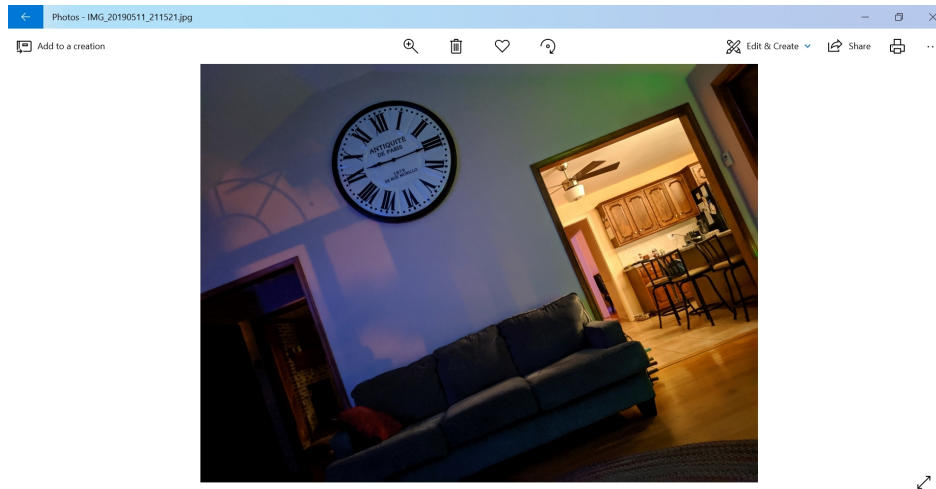
Photos lets you import photos from your smartphone, camera, or other devices.



This functionality is explored in more detail later in the chapter.

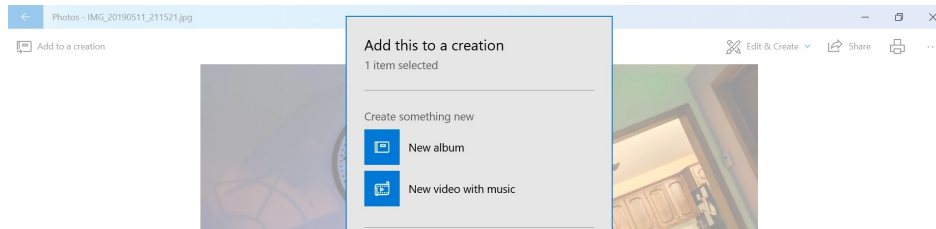
## View a photo

In any view, you display a photo by selecting it. When you do, the photo takes up most of the app window area.

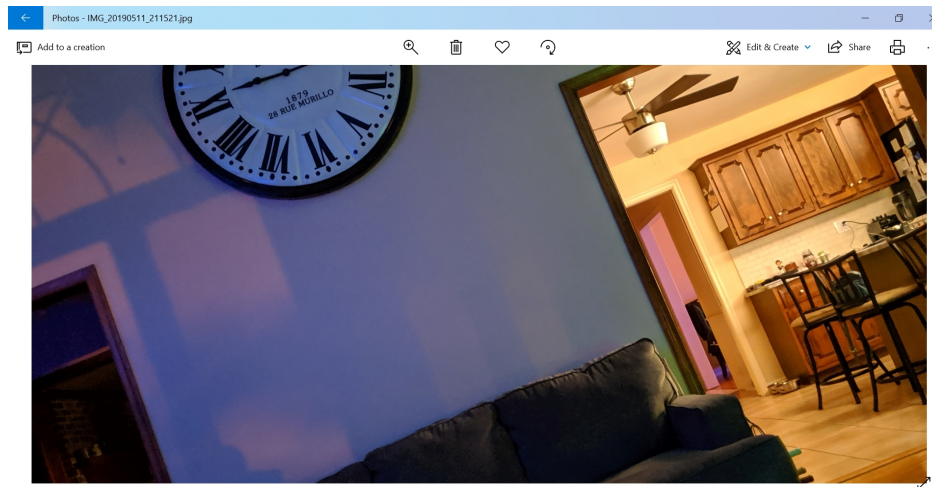


From here, you can do the following:

- **Add the photo to a creation.** Right-click the photo and choose Add to creation from the context menu to add this photo to a new album, a new video project, or an existing creation.



- **Zoom in for a closer view.** Double-click (or -tap) the photo itself to zoom-in (or, if zoomed already, zoom-out) the view. Or, use the Zoom toolbar button, which resembles a magnifying glass, to access a slider for granular control of the zoom between “best fit” and “Maximum zoom.”



- **Delete the photo.** Select the Delete toolbar button, which resembles a trashcan, to delete the photo from your collection. (And, if on your PC, to delete it permanently from your hard drive.)



You can also type DEL to delete the current photo.

- **Add the photo to your favorites.** Like Microsoft Edge and other web browsers, Photos maintains a list of your favorites, which in this case is a list of your favorite photos. Select the Add to favorites toolbar button (a heart) to add the current photo to your favorites, which is viewable as an album in the Photos app's Albums view.
- **Rotate the photo to the right.** Many of the photos you import from a smartphone or digital camera will be incorrectly rotated and will thus appear sideways or upside down in the Photos app. To correct this, select the Rotate toolbar button. This will rotate the photo by 90 degrees to the right, so you may need to select it multiple times to get it right.



You can also type CTRL + R to rotate the current photo 90 degrees to the right.

- **Edit the photo or start a creation.** The Edit & Create toolbar button displays a pop-up menu with a wealth of creative options. From here, you can edit the photo, draw on the photo, add 3D effects or animated text to the photo, create a video project using the photo, or edit the photo in the Photo 3D app.



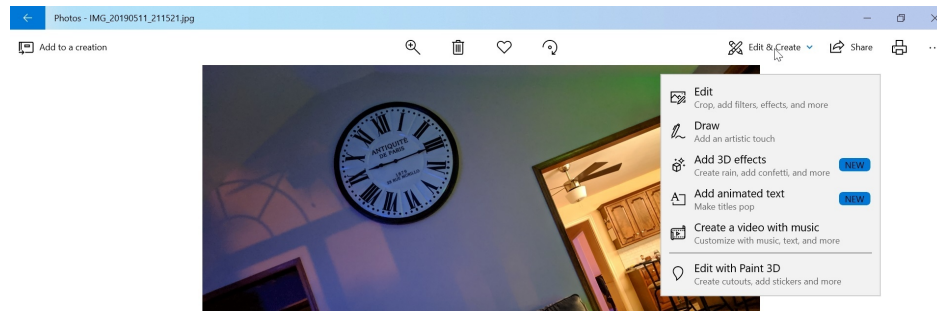


Photo editing and video projects are described later in the chapter.

- **Share the photo.** Select Share to access a Share sheet by which you can share the current photo with another person via email, with nearby sharing, or with an app. You can also copy the current photo to the clipboard from this interface.



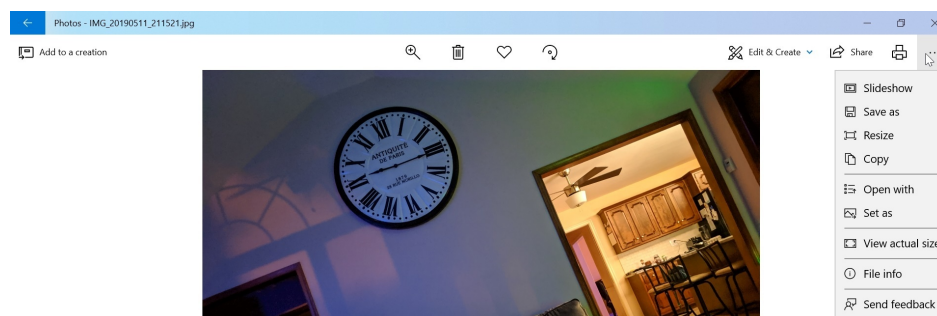
It's easier to just type CTRL + C while viewing the photo if you wish to copy it to the clipboard.

- **Print the photo.** Select the Print toolbar button to print the current photo.

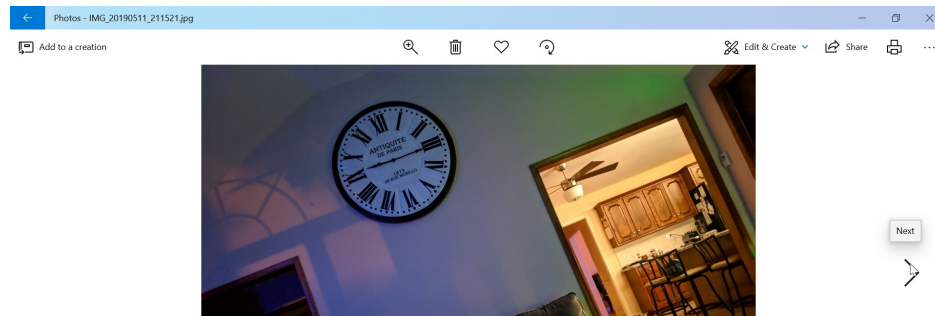


You can also type CTRL + P to print the current photo.

- **Do more with the photo.** The See more (“...”) provides access to a long list of other photo options, including the ability to set the photo as the desktop, lock screen, or app tile background, among other things.



- **Navigate to the previous or next photo.** It's not immediately obvious, but if you mouse over the photo, you will see Previous (“<”) and Next (“>”) buttons appear on the left and right side of the current photo. To display the previous or next photo in the current view, select the appropriate button.



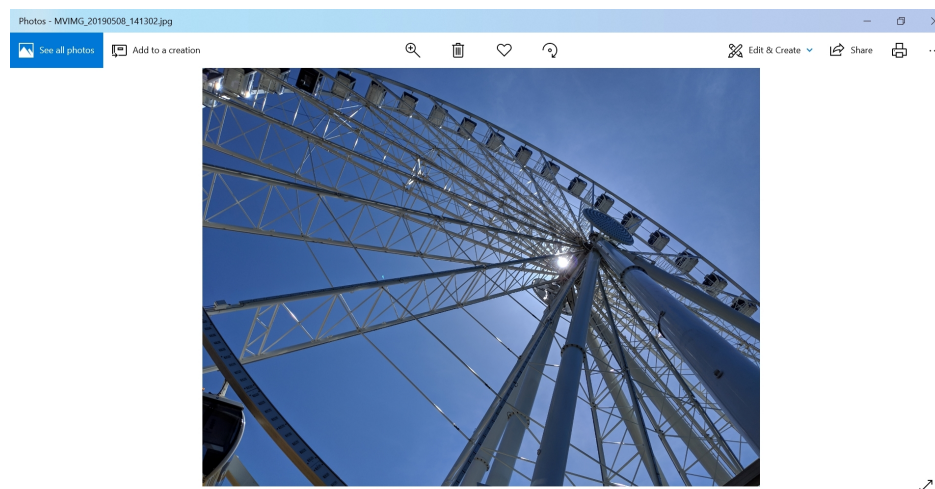
You can also type LEFT-ARROW to navigate to the previous photo or RIGHT-ARROW to navigate to the next photo.



Don't see the Previous and Next buttons? Make sure the photo isn't zoomed: Set it to "Best fit" with the Zoom control first.

## View a photo from outside the Photos app

By default, when you open a photo or other image file from the desktop, in File Explorer, or elsewhere in Windows, it opens in a simplified version of the Photos app that basically displays only the photo viewing experience.



This view provides all of the capabilities described above. But you can also select the See all photos tile in the upper left of the window to open the full Photos app.



If Photos is not configured as your default photo and image viewer, you can change this in the Settings app. Navigate to Settings (WINKEY + I) > Apps > Default apps and then select the entry under Photo viewer. In the Choose an app window that appears, select Photos.

## Configure Photos

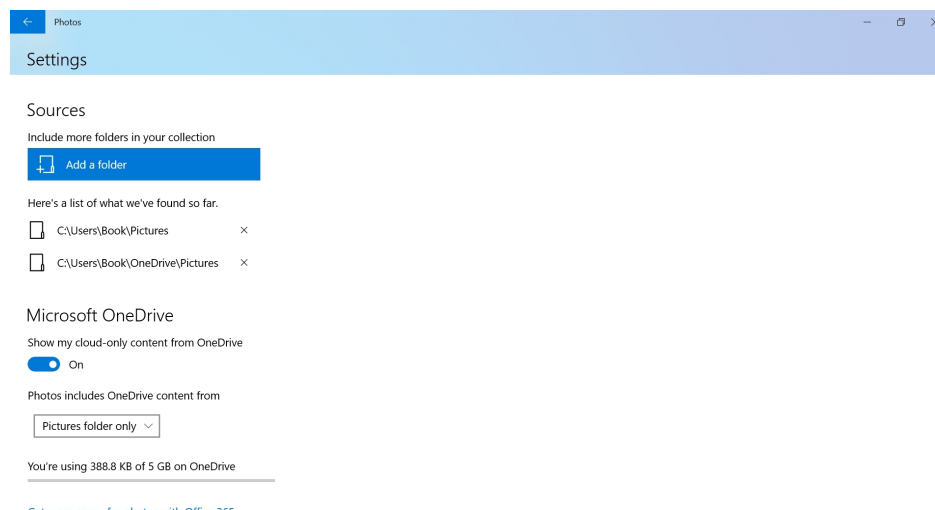
Before you get started using Photos, you should make sure the app is configured correctly for your needs. Most important, you should configure the app to display the photos you wish to see.

By default, the Photos app will display photos from two locations: The Pictures folder for your user account (*C:\Users\*user-account\Pictures, by default*) and in your OneDrive (*C:\Users\*user-account\OneDrive\Pictures, by default*). But you can configure Photos to use other locations as well. (And if you don't want it to access one of those default locations, you can remove one or both as well.)



If you do not sign-in to Windows using your Microsoft account, only the photos in your Pictures folder will be displayed in Photos by default.

To configure which locations the Photos app uses, open the app and navigate to See more (“...” > Settings). The Settings page appears.



The configured locations appear under the top Sources section. To add a location, select “Add a folder.” To remove a location, select the Remove source folder button (“X”) next to that location.

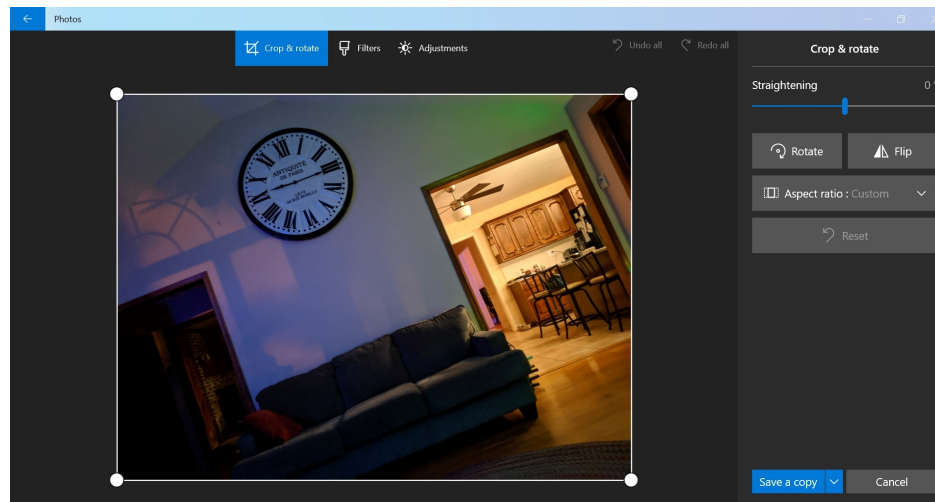
The “Show my cloud-only content from OneDrive” option can also be toggled according to your needs. Likewise, you can configure Photos to display cloud-only OneDrive photos from your Pictures folder or from anywhere in OneDrive.

## Edit a photo

The Photos app provides extension photo-editing capabilities. To access them, display the photo you’d like to edit and then select Edit & Create > Edit. When you do, the Edit experience appears.

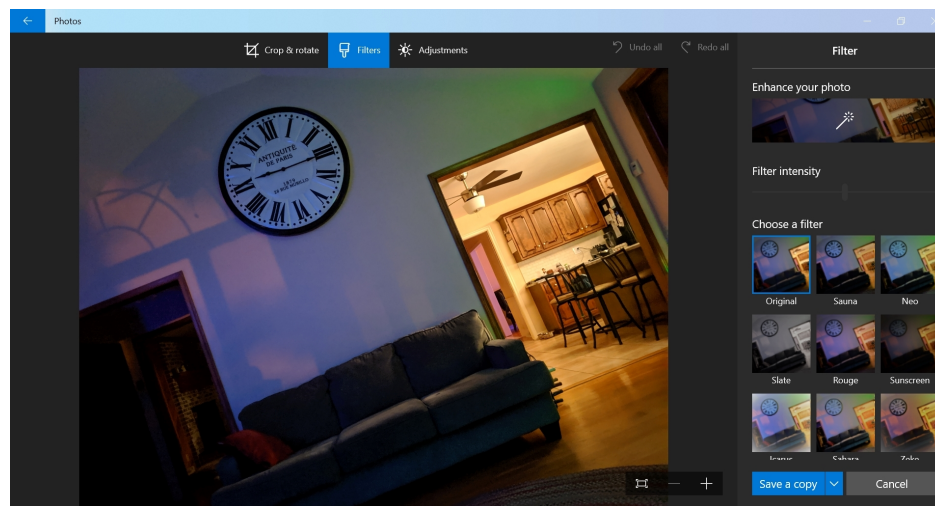


It’s faster to just type CTRL + E.

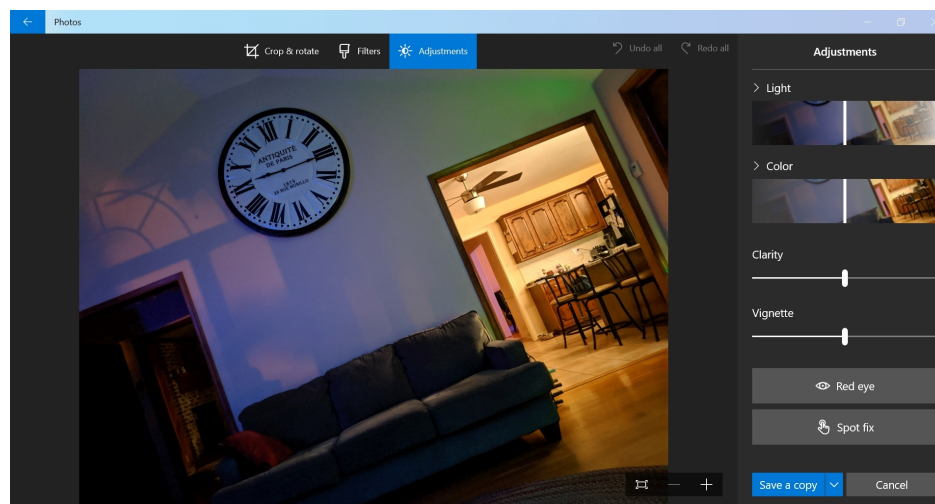


The Photos app’s Edit experience provides three different views. They are:

- **Crop & rotate.** In this default view, you can straighten the photo using a slider, rotate the photo to the right in 90 degree increments, flip the photo horizontally, or crop the photo using a select of preset aspect ratios (like 16:9, 4:3, and so on).
- **Filters.** Here, you can use the Enhance your photo tile to apply an automatic filter to the current photo or select from a collection of Instagram-like filters to create a custom look. A Filter intensity slider lets you determine the severity of the filter.



- **Adjustments.** This view offers several useful adjustments, including light adjustments (contrast, exposure, highlights, and shadows), color (tint and warmth), clarity, vignette (which reduces the brightness at the edges of the photo to better focus on the center), red eye correction, and spot fix (which can be used to blemishes and other mistakes in the photo).



Each of these views also provides Undo all and Redo all buttons so you can correct mistakes, a Cancel button for exiting the Edit experience without saving, and a Save a copy button if you want save your edits as a new photo and retain the original.

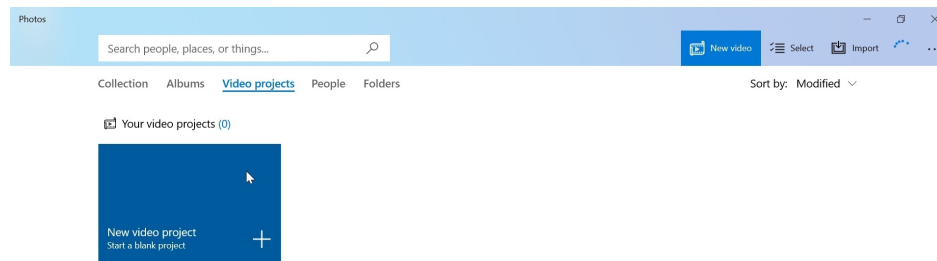
## View, create, and edit video projects

The Photos app provides powerful and fun video creation and editing functionality with which you can turn your photos into fun movies with themes, background music and other audio, filters,

text, motion effects, 3D effects, and more. This may sound daunting, but the Photos app makes it relatively straightforward. And the quality of the results will surprise you in a positive way.

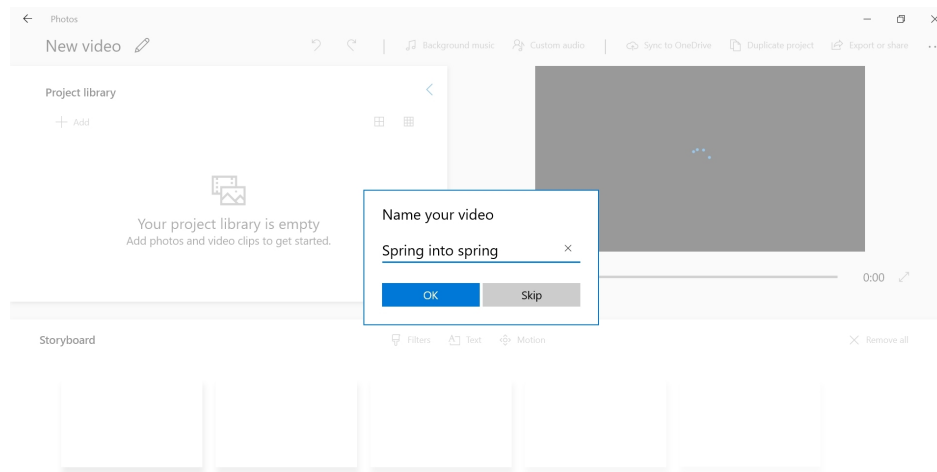
## Start or edit a video project

You can start a new video project a few different ways. But the most obvious to navigate to Video projects and select the New video project tile.

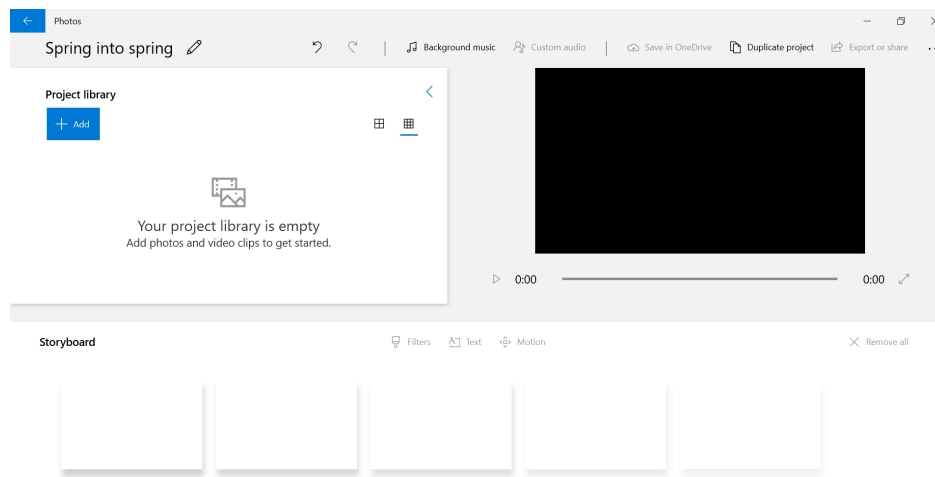


You can also let Photos make an automatic video for you, complete with music, which you can then edit to your liking. Here, again, there are a few different ways to get started, but the most obvious is to multi-select photos in the Collection view and then select Add to... and then New video with music.

First, you're asked to name the video project.



Then, the video editor experience appears.



There are three main areas to this interface:

- **Project library.** This area contains the photos and video clips you will use to build your video project.
- **Video preview.** You will want to preview the video project, or a specific part of it, as you build it. You do so using the Video preview area, which can be expanded to be full screen.
- **Storyboard.** In this area, you arrange the photos and video clips that make up your video project in the order in which they will appear in the resulting video. Additionally, you use the storyboard, to add filter, text, motion, 3D effects, and other edits to these items.

In addition to these main areas, the video editor also offers other tools for adding background music and custom audio, changing the aspect ratio of the resulting video, saving the project to OneDrive, exporting and sharing the resulting video, and more. Most of this functionality is described in more detail below.

## Import content into a video project

Photos and video clips are the center of any video project. You will typically add this content to the project library by selecting the Add (“+”) button in the Project library area. As prompted, you can add content from your PC and from your entire photo collection.

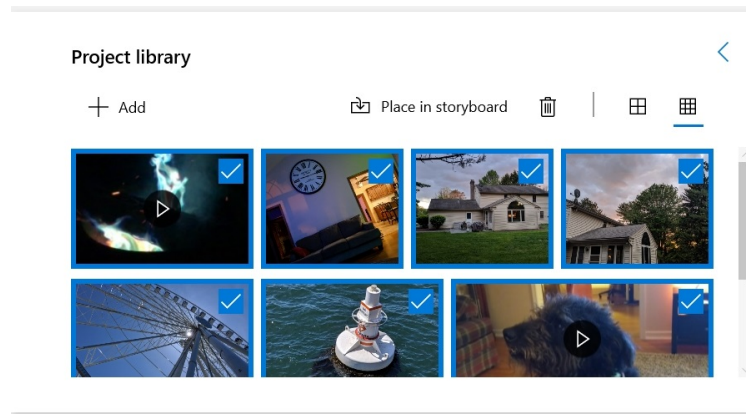


Your photo collection can include files that are stored in OneDrive. If you select files from OneDrive, they will be downloaded to your PC so you can use them in your video project.



You can also drag and drop compatible files from the desktop or File Explorer into the Project library area.

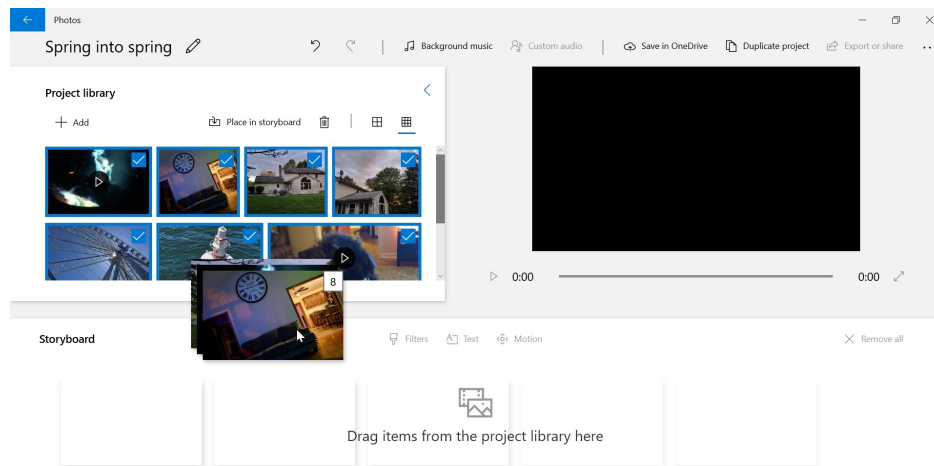




Content in the project library can now be used in your video project. But it needs to be added to the storyboard first. From there, it can be arranged and edited as needed.

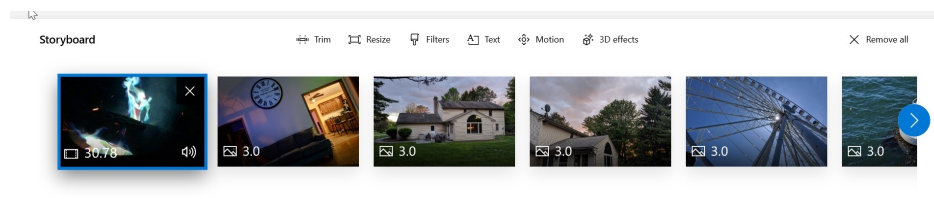
## Add content to the storyboard

To add an item in the project library to the storyboard, select it and then select “Place in storyboard.” Alternatively, you can simply drag and drop an item from the project library into the storyboard.



Adding multiple items to the storyboard works similarly: Just select all the content you want to add first.

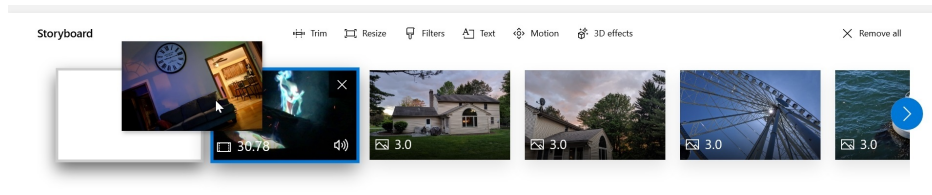
However you do it, each photo and video clip will have its own location in the storyboard.





## Arrange content in the storyboard

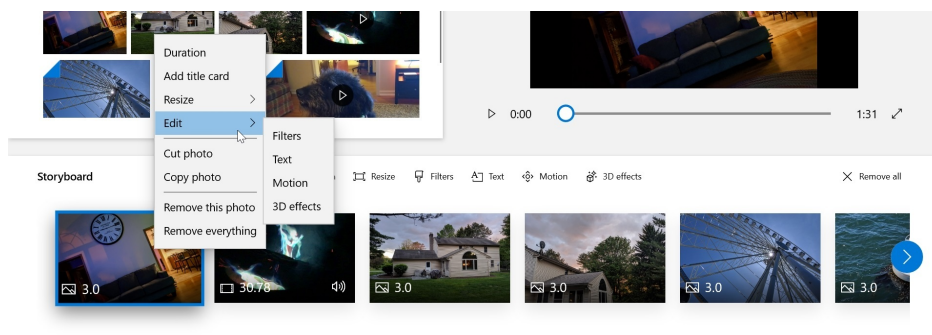
Once you have placed content in the storyboard, you can perform a wide range of actions on that content. The most basic, perhaps, is to arrange each photo and video clip in the order you wish them to appear in the resulting video you will create. You do so by grabbing an item you wish to move and the dragging and dropping it to a new location in the storyboard.



Then, repeat as necessary until each item is in the location you prefer.

## Make adjustments to an item in the storyboard

In addition to arranging items in the storyboard, you can apply numerous adjustments to individual items. To see all of the available adjustments, right-click an item. Two of the key items—Duration and Resize—are also available from the toolbar in the Storyboard area.

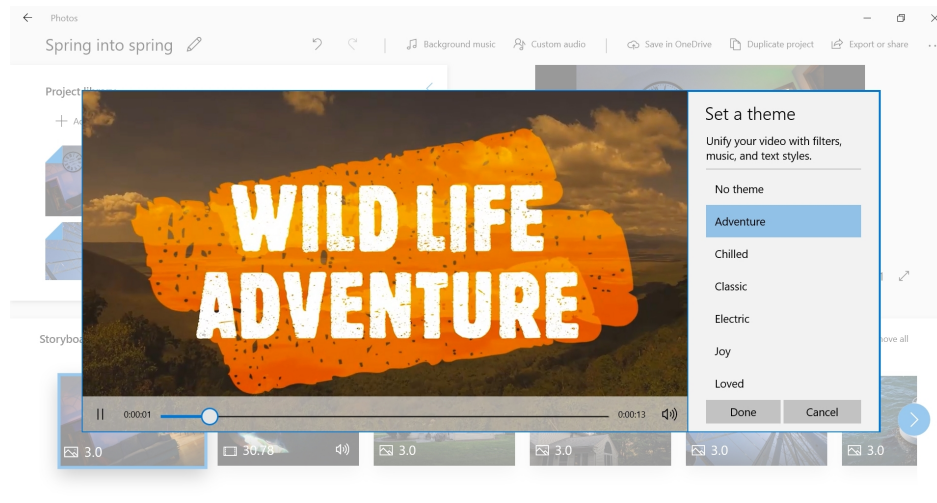


As its name suggests, Duration lets you configure how long the item will appear in your resulting video. And Resize lets you remove the black bars that may appear around the item by zooming in as necessary.

## Apply a theme

Once you have at least one item in the storyboard, you can apply a *theme* to the entire project. A theme includes preset filters, music, and text styles, and can simplify the video creation process by doing a lot of work for you.

To apply a theme, select the Themes toolbar button. Then, in the Set a theme window that appears, select a theme from the list. Each time you do, a video preview will play, giving you an idea of what the theme looks and sounds like.



When you find a theme you like, select Done.

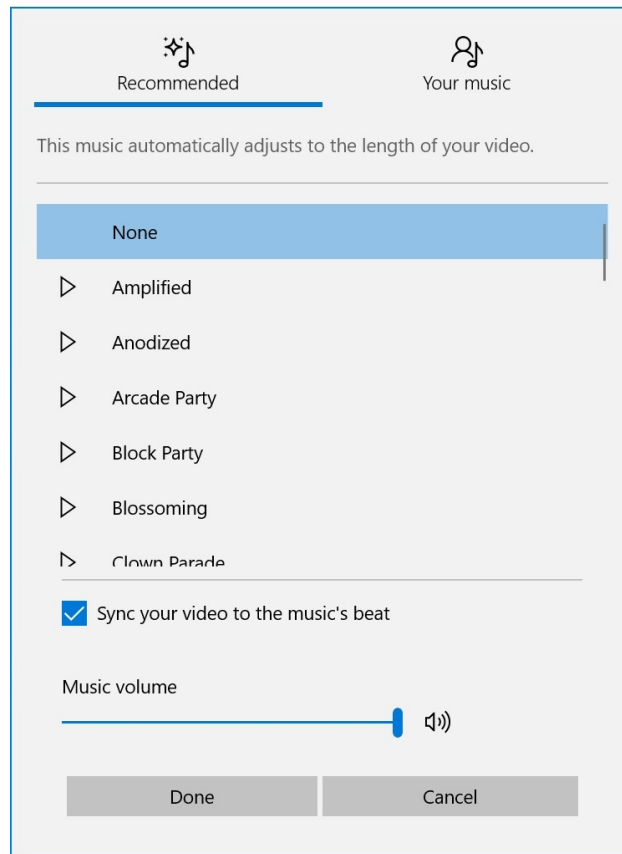


If you do use a theme, you can later change any of the stylistic changes it made as you continue editing the video project.

## Add background music to the project

The Photos app provides a nice collection of moody musical choices that can be used to enhance the video you're creating. This functionality is smart, too: The background music will automatically adjust to the length of your video project and will fade in and out as necessary. And when you add music, you can choose to sync the video to the beat of that music, so that transitions between photos (and/or video clips) will feel more natural.

To add background music to your video project, select the Background music button in the Photos app's toolbar. The Background music window appears.

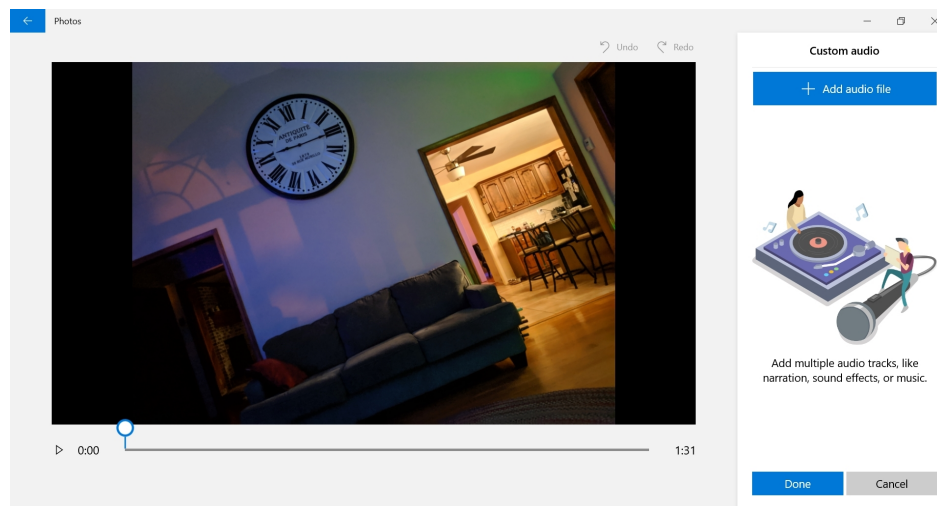


Here, you can preview and then select the background music. Optionally, you can choose your own music and choose to sync your video to the beat of the music you select. You can also adjust the relative volume of the music. When you're done, select Done.

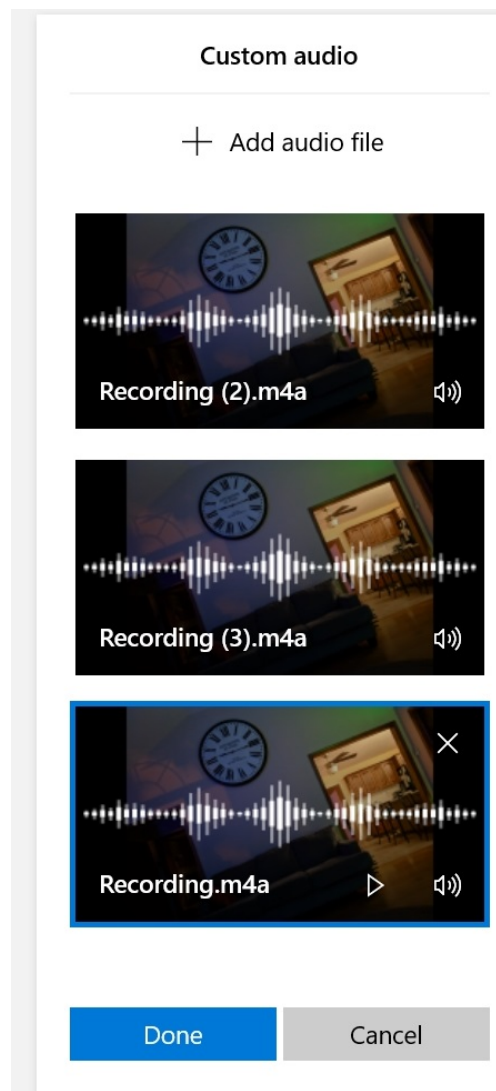
## Add custom audio to a storyboard item

In addition to background music, the Photos app lets you separately add one or more custom audio files to a video project. These custom audio files are different from background music in two key ways. First, they are not applied to the entire video, but can instead be added as needed at specific points in the video. And second, they don't have to be music: You might also use narration or sound effects as well.

To add custom audio to a video project, first select the storyboard item where you would like to add the audio. Then, select the Custom audio toolbar button. The Custom audio pane appears.

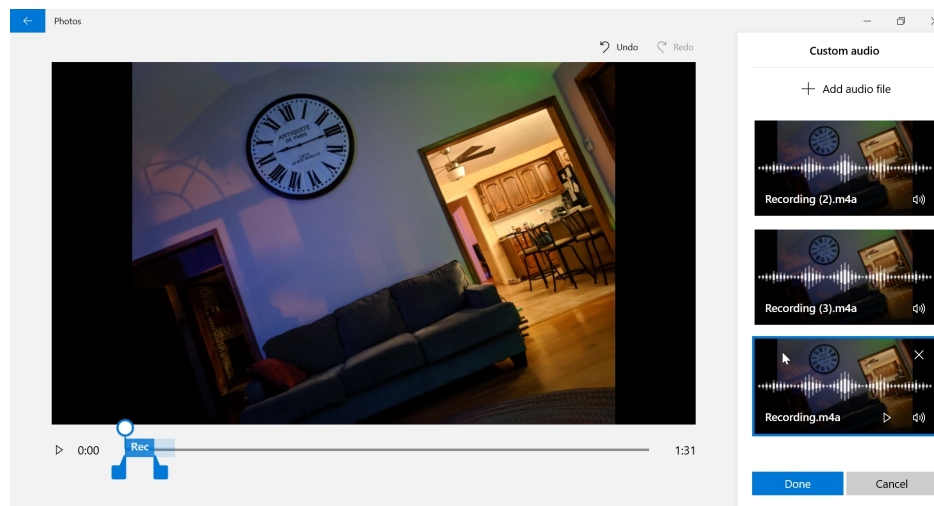


Select the Add audio file button to locate and add one or more audio files that you wish to use in the project. The audio file(s) will then appear in the Custom audio pane.



If you want to add narration to your video, you must first record it. Windows includes a Voice Recorder app for this purpose.

Now, select the audio file you wish to use. In the preview pane on the left, you can see how the file works within your entire video project. You can also use the handles on the audio clip in the scrubber bar below the preview to place or trim the clip.

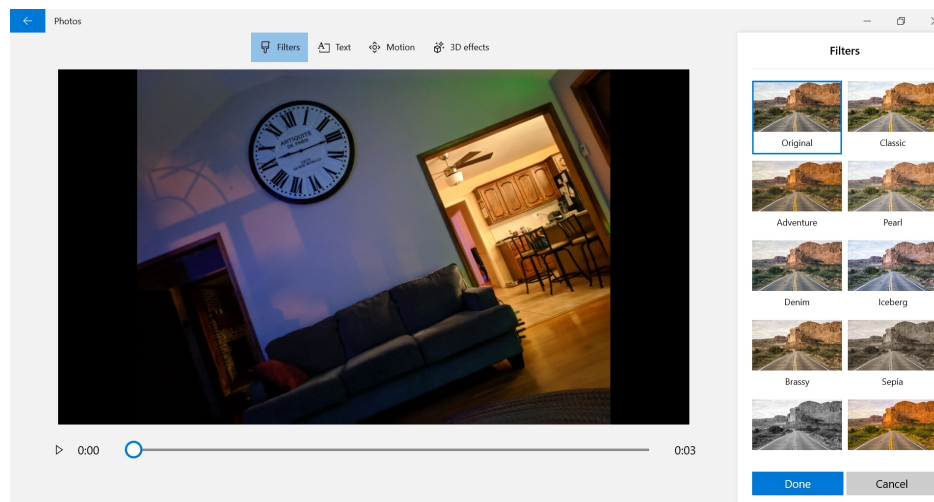


When you're satisfied, select the Done button. If you are adding multiple audio files, repeat this process, starting with selecting the right storyboard item for the next clip.

## Add a filter to a storyboard item

Like Instagram and other popular photo-sharing services, the Photos app lets you add *filters* to the photos and video clips you add to a video project. These filters change the appearance of the content by altering the colors, the contrast, or other aspects of the content.

To add a filter to a photo or video clip, select the item in the storyboard and then select the Filters button in the Storyboard toolbar. (Alternatively, you can right-click the photo storyboard item and choose Edit > Filters). When you do, the Filters experience appears.



Now, select a filter in the Filters area and see how it changes the content. (If you're applying the filter to a video clip, you can preview the effect for the entire video on the left.) You can keep selecting

different filters until you find one you like. When you do, select Done to add it to the photo or video clip.

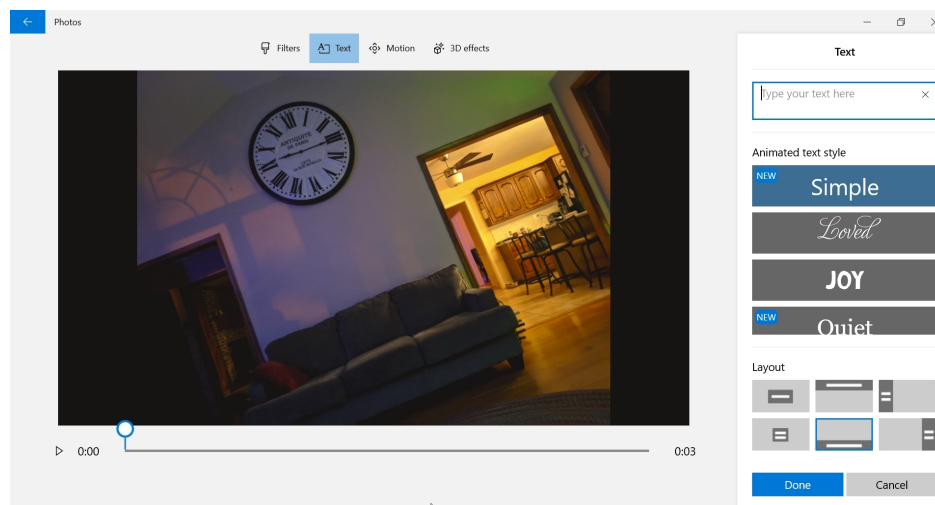


You can only apply one filter per storyboard item.

To remove a filter, select the item in the storyboard, select the Filters toolbar button, and then select Original from the Filters list in the Filters experience.

## Add text to a storyboard item

You can add animated and styled text to any storyboard item, including a photo, a video clip, and a title card. To do so, select a storyboard item and then select the Text toolbar button. The Text experience appears.

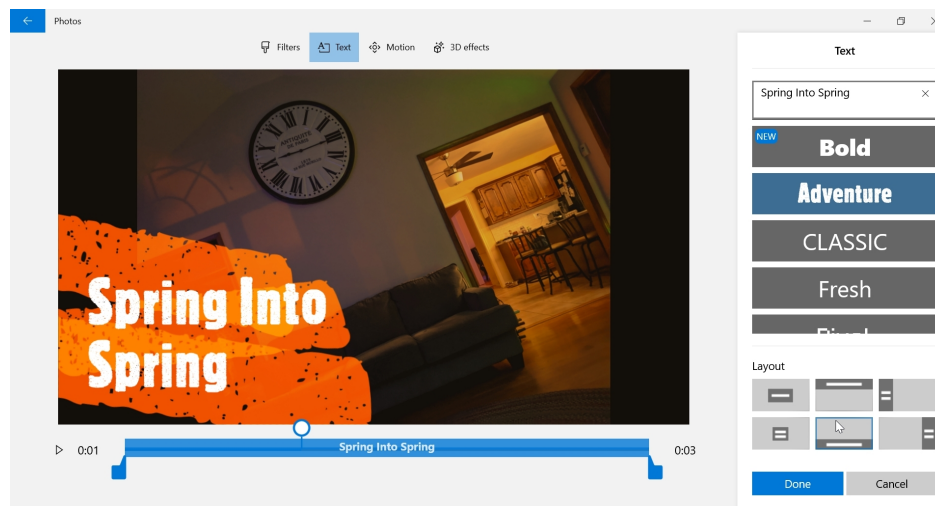


Title cards are described below.

Here, you can create the text, choose the font with which it will display, and then choose its layout, which basically indicates where on screen the text will appear and how it will animate.

Be sure to use the preview display on the left to make sure it's exactly what you want before continuing. You can also use the text duration handles on the scrubber below the preview window to determine how long the text appears on the item.

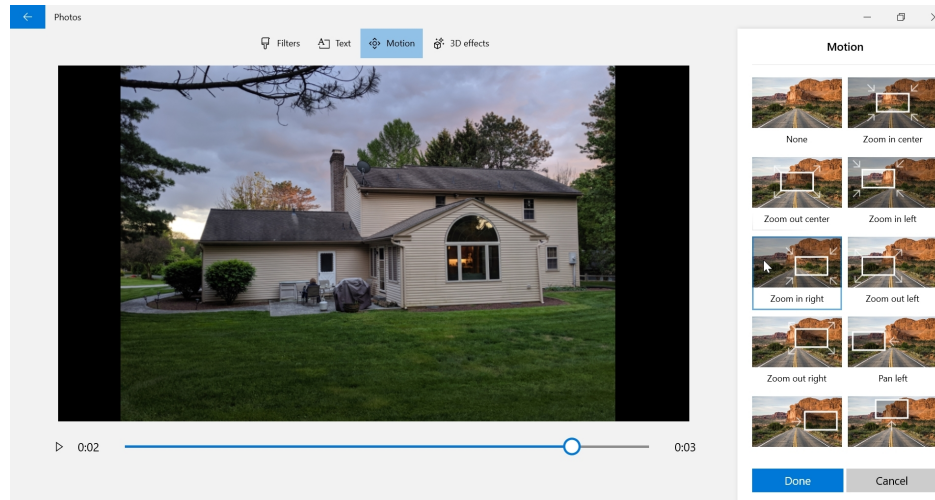




## Add motion to a storyboard item

You can add a subtle motion to any storyboard item, but it's especially effective with photos because they are non-animated.

To do so, select the storyboard item to which you wish to add motion and then select the Motion toolbar button. The Motion experience appears.



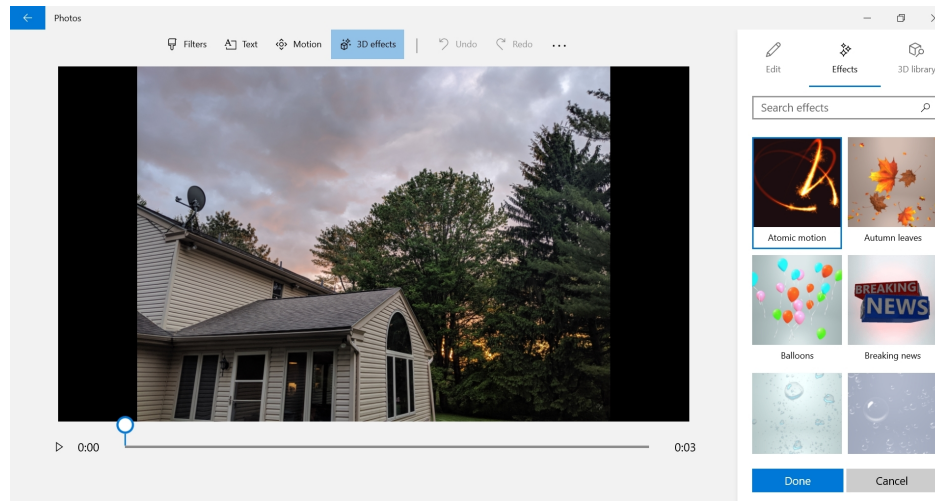
As you can see, this looks—and works—much like adding text or a filter. Simply select a motion, preview it on the left, and then keep testing until you find the motion you like. Then, select the Done button.

## Add a 3D effect to a storyboard item

The ability to add 3D effects with accompanying audio to your photos and video clips is truly unique to the Photos app.



With photos, this capability works a lot like adding filters, text, or motion. First, select a storyboard item and choose the 3D effects toolbar button in the Storyboard area. The 3D effects experience appears.



Just select a 3D effect and a volume level, place and size it on the photo, and select the start and end time for the 3D effect under the preview window.

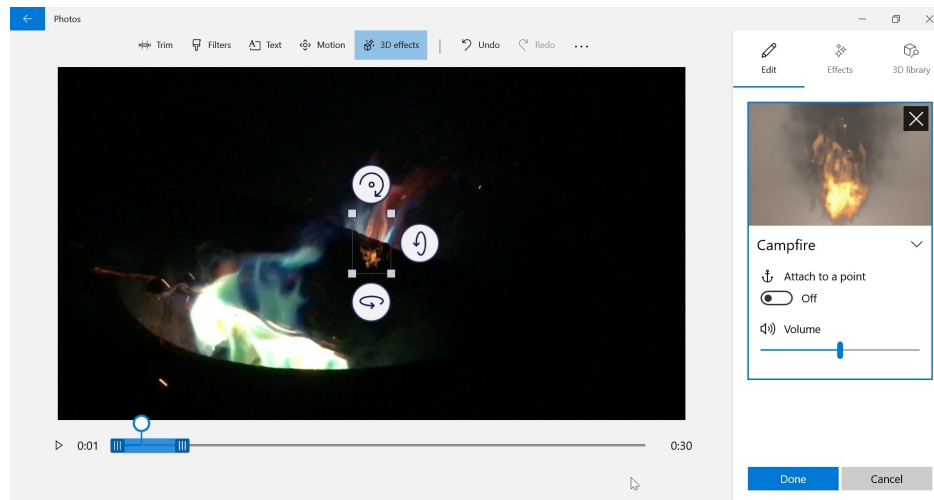


Additionally, you can rotate the effect in space—it is a 3D effect, after all, by using the rotation handles on the sides of the selected effect.

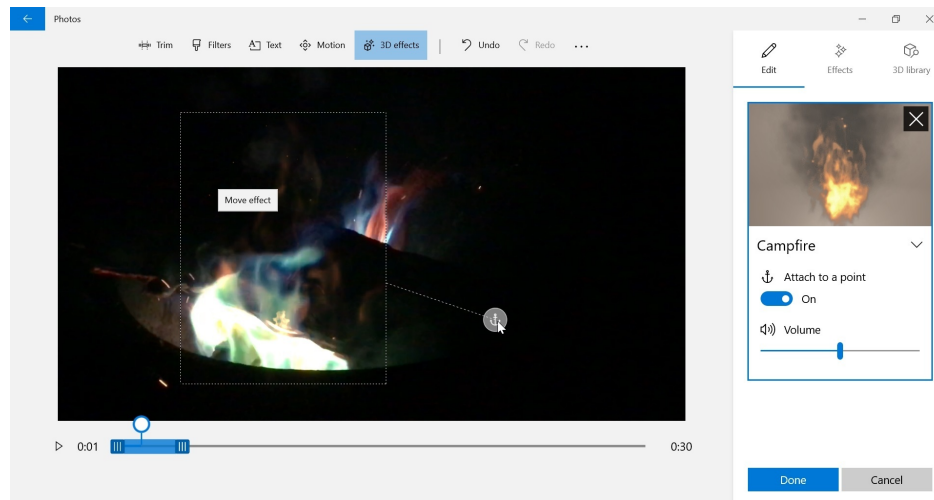
Preview as necessary and select Done when you're finished.

With videos, 3D effects get even more interesting because they can optionally be attached to a point in a video clip and then instructed to move around as the video clip advances.

You add a 3D effect to a video in the same way you do with a photo. But now you will see a new Attach to a point option in the selected effect in the Edit pane on the right.



When you enable this option, a small anchor icon appears in the center of the effect in the preview pane. To animate the effect through the video, select the anchor and move it to the desired destination location.



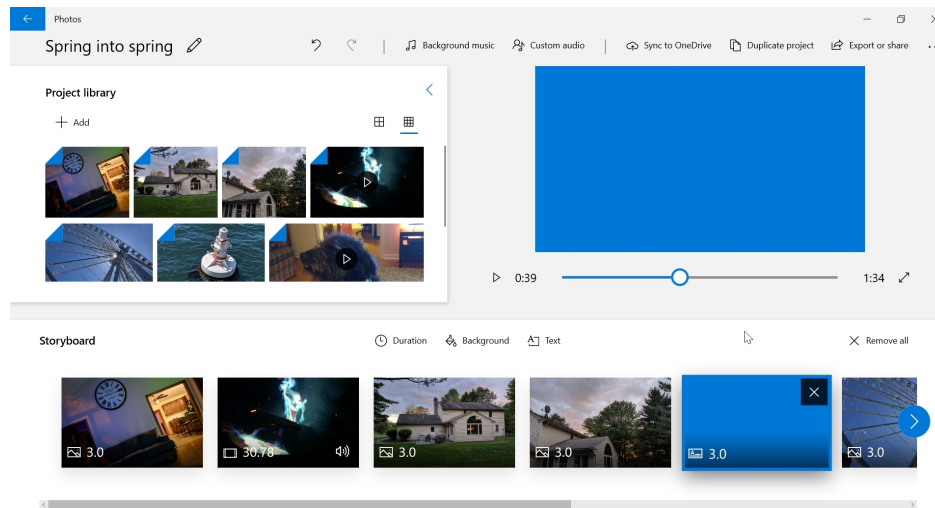
Either way, click Done when the effect is working as you prefer.

## Add and edit a title card

The Photos app lets you add title cards to your video projects. One can be used, as the name suggests, as a literal title card that introduces your video. But you can add any number of title cards to a project and use them as transitions or, at the end of a video, as end credits.

To add a title card, select a storyboard item before which the title card will appear. Then, select the

Add title card button in the Storyboard toolbar. A blank title card will appear before the previously-selected card.



If you don't place the title card correctly, no worries: You move title cards with drag and drop, just as you do with any other Storyboard items.

Now, you can edit the text and/or the background color, plus the duration for which the title card will display, by accessing the relevant Storyboard toolbar button while the title card is selected.



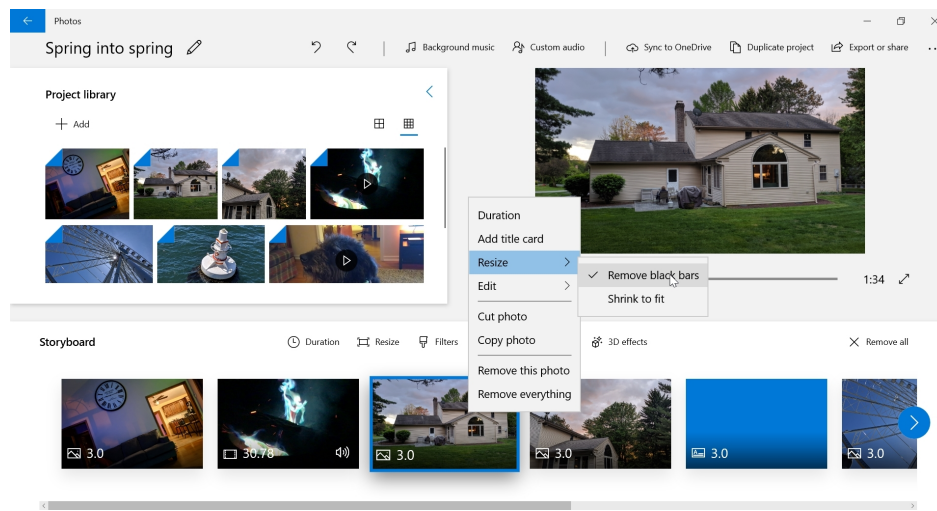
You can also access these options by right-clicking the title card.

The duration can be virtually any length, but the Photos app provides presets for 1, 2, 3, 5, and 7 seconds. Text is added and edit just as it is for any storyboard item (as described earlier). And the background can only be a solid color.

## Change the aspect ratio of the video project

The Change aspect ratio button in the Photo app's toolbar displays the aspect ratio of the current video project (like "16:9 Landscape"). But it can also be used to change the aspect ratio, say to 4:3 or a portrait orientation. This can be useful if too many of the photos in the project display with black cropping bars.

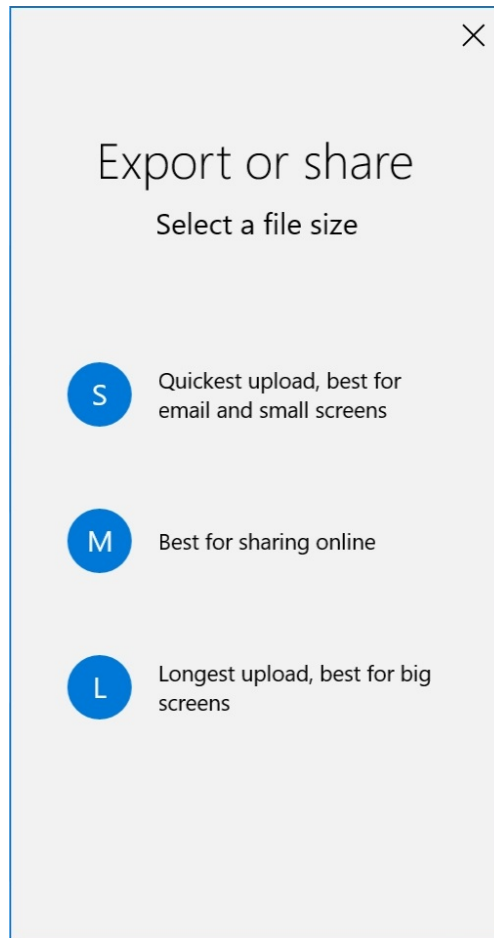
You can also change how an individual photo displays. To do so, right-click the photo in the storyboard and choose **Resize > Remove black bars**, if that's the problem you're trying to solve. Or, choose **Resize > Shrink to fit**.



## Export or share a video project

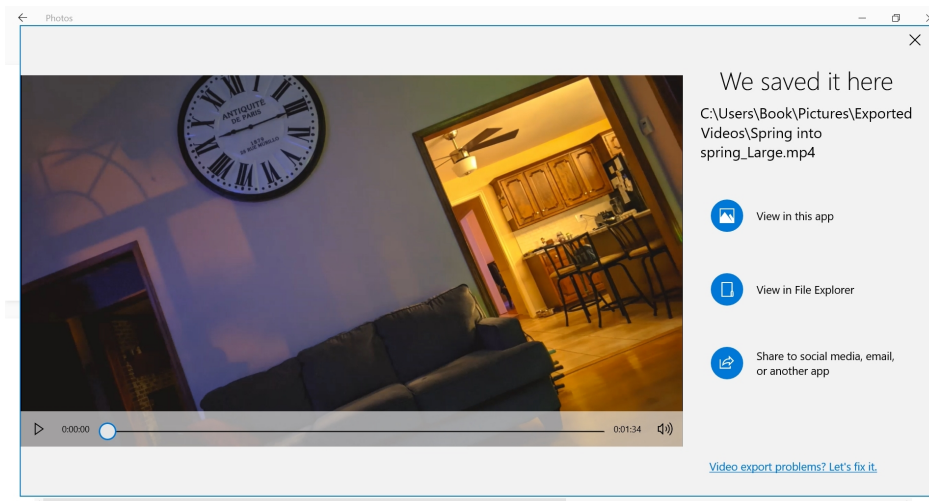
Once you're done creating a video project, you can export it to a video file that can be shared with others. You can also optionally share the video directly from the Photos app.

To do so, select the Export or share toolbar button. The Export or share window that appears first asks you whether you prefer a small (S), medium (M), or large (L) file size.



These choices are a bit simplistic and don't provide any hint about the resulting quality of the video you will make. Unless the cost of bandwidth is an issue, we recommend choosing the (L) large file size. Or at least experimenting with each so you can determine which size works best for you.

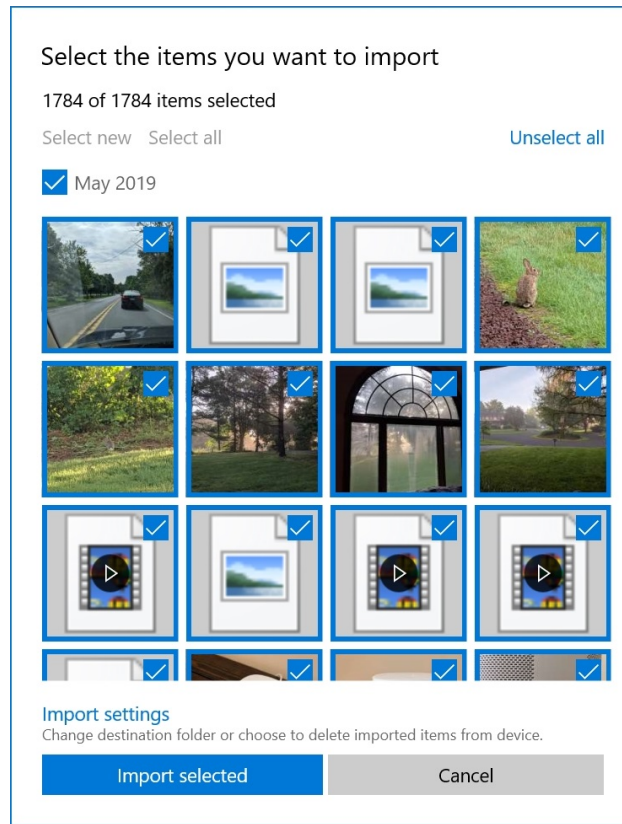
Once you select the file size, Photos will export your video to a file that it will place in an Exported Videos folder in your Pictures folder.



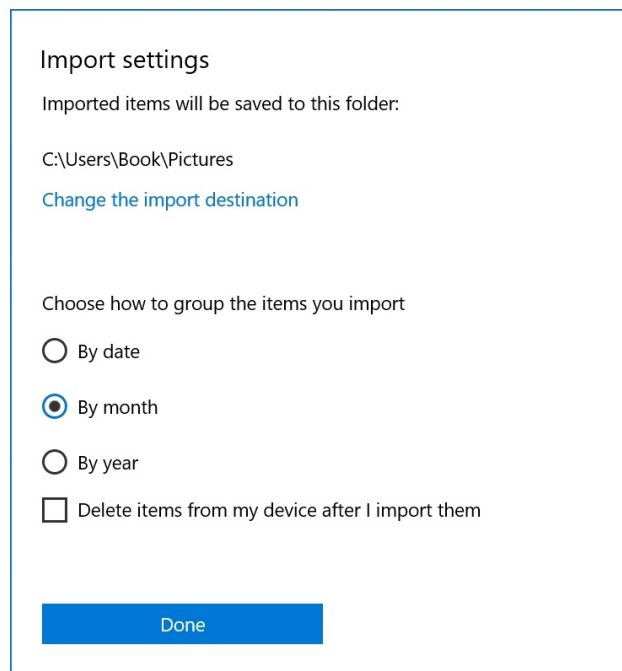
From here, you can view the video, view the video file in File Explorer, or share the video directly from the Photos app. If you choose the Share option, a Windows Share sheet will appear so that you can share the video with a particular contact using the Mail app, using local sharing (with another Windows PC), or via any compatible app installed on your PC.

## Import photos from a phone, camera or other device

To import photos from another device—like a smartphone, camera, or USB hard drive—connect the device to your PC and then select Import > From a USB device in the Photos app. Once Photos has found some photos in the connected device, you can select the items you wish to import.



As important, you can configure *how* to import them: If you select the “Import settings” link in this window, you can choose where the imported files will be located—C:Users\*user-name\*Pictures by default—and how the imported files will be grouped (in folders).

A screenshot of the 'Import settings' dialog box in the Windows Photos app. The dialog has a white background and a blue border. At the top, it says 'Import settings'. Below that, it states 'Imported items will be saved to this folder:' followed by the path 'C:\Users\Book\Pictures'. There is a blue link 'Change the import destination' below the path. Further down, it says 'Choose how to group the items you import' and lists three radio button options: 'By date', 'By month' (which is selected), and 'By year'. At the bottom, there is a checkbox labeled 'Delete items from my device after I import them' which is currently unchecked. A blue 'Done' button is at the very bottom.

What you *can't* do is determine how the imported files will be named: They will retain their original file names as they are imported.

Select the Import selected button when you're ready to copy the photos to your PC and to your collection. You can view the imported files in the Pictures folder (by default) using File Explorer or in the Latest import view in Folders in the Photos app.

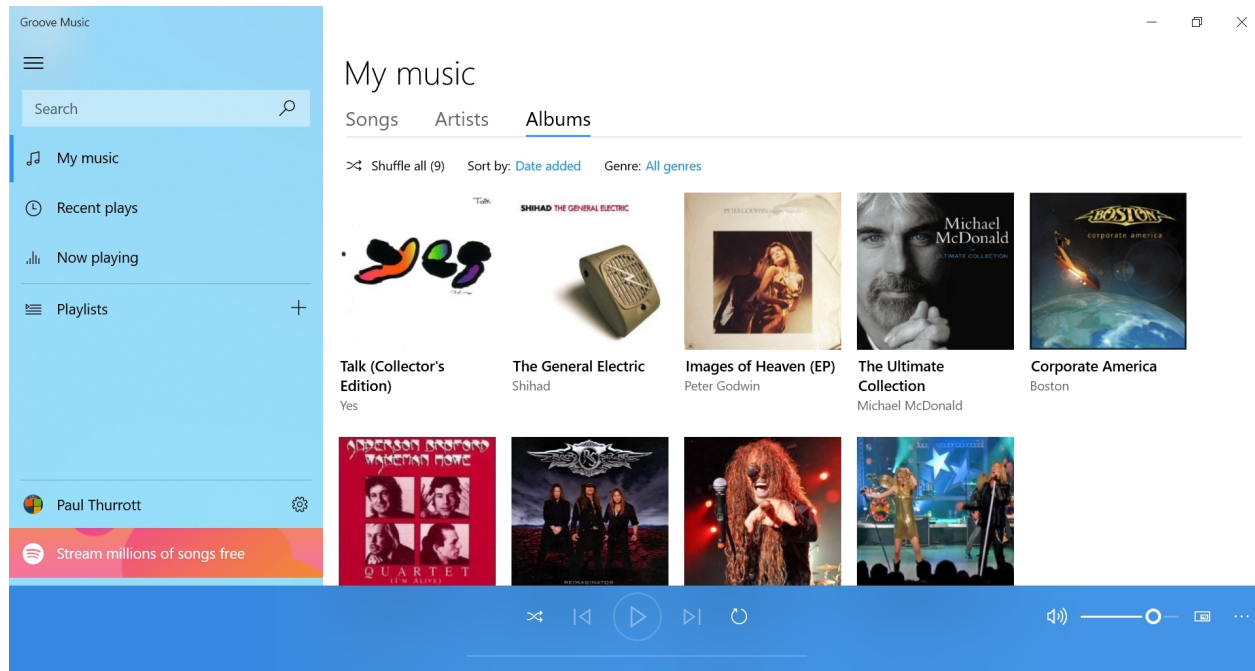
## Access premium Photos features with an Office 365 account

If you have an Office 365 Home or Personal subscription tied to the Microsoft account you're using with the Photos app, you will get additional functionality in the app. These capabilities are all enabled by default, but can be disabled individually in Photos settings if you like.

Key among these capabilities are premium video effects. In addition to the normal collection of effects that Photos provides in its video project editor, those with an Office 365 subscription have access to additional premium text styles and 3D effects as well. Premium effects are denoted with a diamond overlay.



# Groove Music



The Groove Music app lets you access your personal music collection. This can include any combination of songs you’ve purchased online or ripped from CD and then downloaded or stored on your PC, or on other PCs or media shares on your home network.

## Get to know the Groove Music app

Groove Music is a straightforward and simple—some might say limited—app.



In previous Windows 10 versions, Groove Music was a more full-featured app that supported streaming music from OneDrive, an online music store, and a music subscription service called Groove Music Pass. Now, however, Microsoft is recommending that users who need more than local music file playback turn to [Spotify](#) instead.



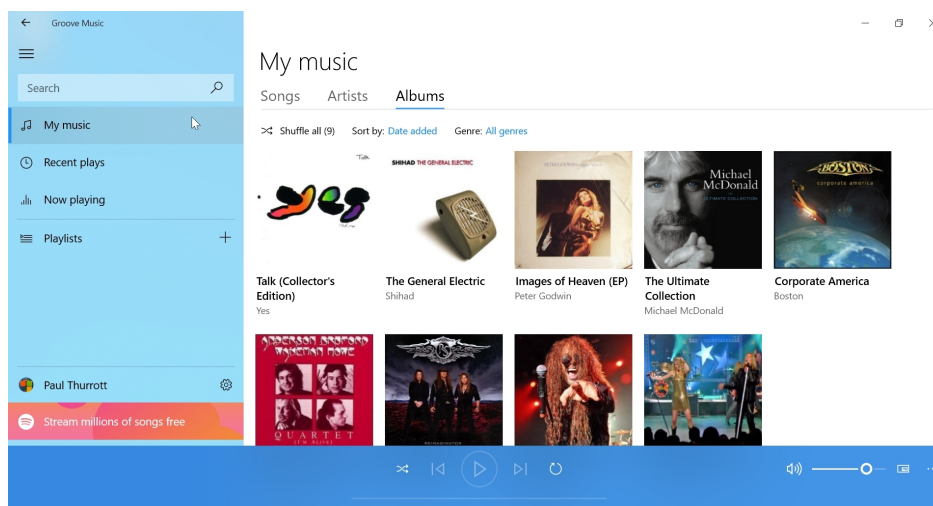
As with other similar built-in Windows apps, the Groove Music navigation pane can be collapsed (minimized) and expanded (maximized) as needed by selecting the “hamburger” button (the three horizontal lines) in the top left of the app.



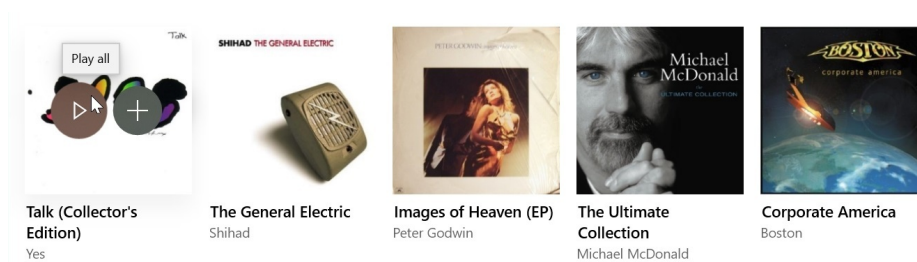
Likewise, like many other built-in Windows apps, Groove lets you choose between a dark mode and a light mode (the default). You can also choose to use the system setting, which is configured in Settings > Personalization > Colors under “Choose your default app mode.”

Here is a quick rundown of the major experiences in Groove, all of which are accessed from the collapsible navigation pane on the left.

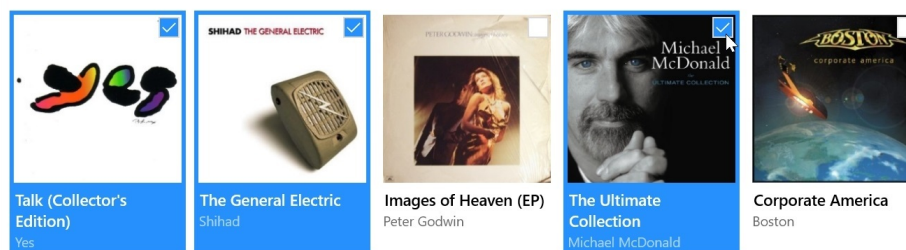
The My music view provides you with three tabs—Songs, Artists, and Albums (the default)—by which you can view your music collection.



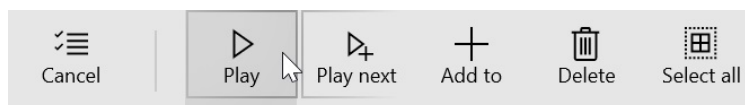
Though each tab view looks a bit different—Songs is presented in a list view, Artists uses round bubbles, and Albums are displayed with square album art—each works similarly. You can view any item by selecting it, and if you hover over an item in any of these views, Play all and Add to overlays appear on that item.



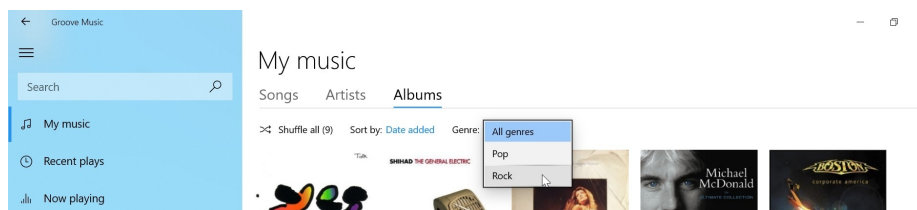
You can also multi-select items in each view: Right-click (or, with touch, long-press) the first item and choose “Select” from the pop-up menu that appears. Then, a selection box will appear in the other items so you can select them too.



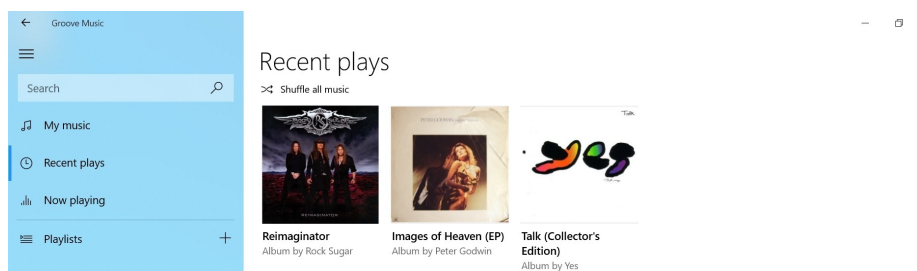
Once you have selected one or more items, you can perform actions like Play, Add to, Delete, and so on. These options appear in a toolbar at the bottom right of the app.



Each of these tabs also provides a Shuffle all button, plus ways to sort (by date added, alphabetically, and more) or group by genre (for songs and albums only). Between these options, you should have no trouble seeing only the music you wish to see.

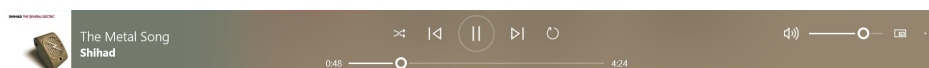


The Recent plays view provides access to your recently-played music, which can be handy if you want to listen to something you recently enjoyed again.

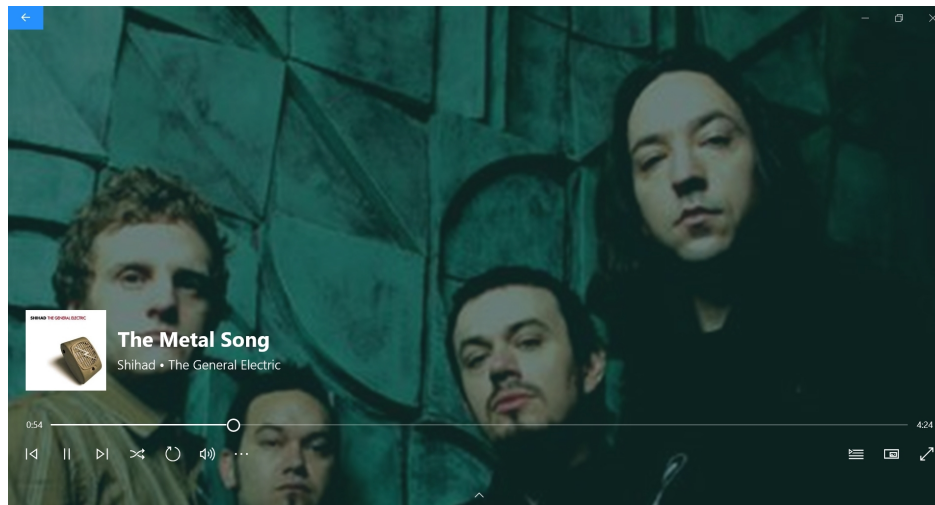


The Now Playing link provides access to a set of views that you can use to enjoy and manage the music that is currently playing.

To see this, start playing some music. When you do, the toolbar on the bottom of the app provides basic playback controls.



Then, select Now Playing in the navigation bar to display the Now Playing view.



This view provides a playback experience with animated artist photography that you can leave running while enjoying the music.

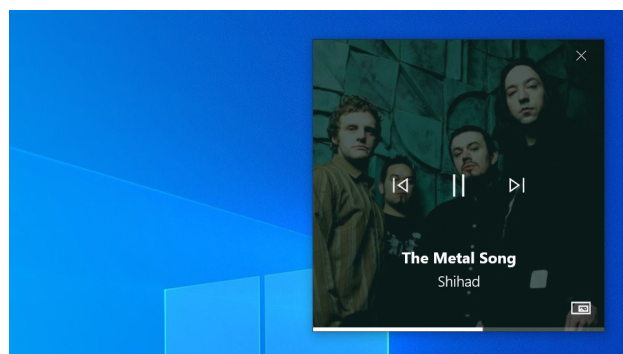


You can also use the “Show now playing list” carat at the middle bottom of the screen to manage what’s called the Now Playing playlist. This lets you remove or rearrange songs, access playback controls, and perform other related actions.



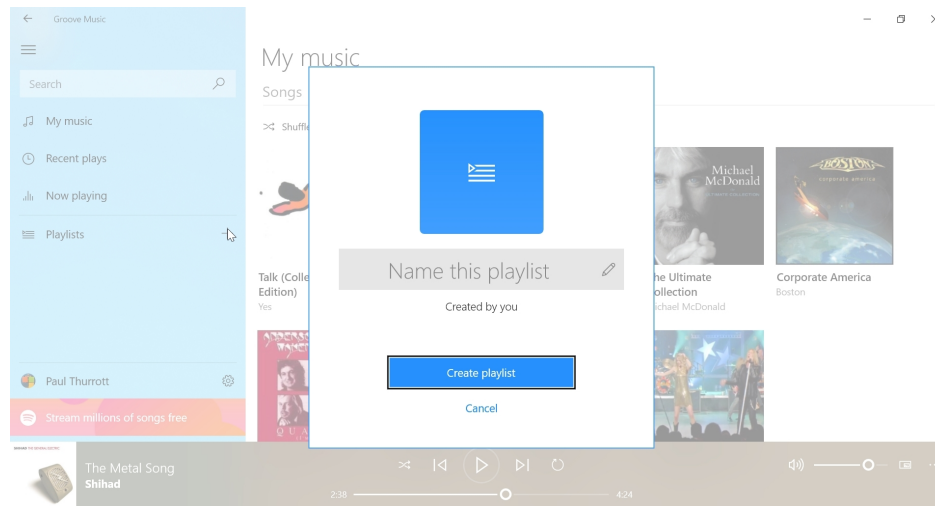
You can access this view throughout the app by selecting the album art in the playback controls toolbar too.

Groove Music also supports a mini view so that you can use to see what’s playing while you work on other things on your PC. To access this mode, select the Play in mini view button in either Now Playing view, or in the playback controls toolbar. This resizable window provides Play/Pause, Previous, and Next buttons, plus a Leave mini view button.



If you enjoy the artist imagery provided by Groove Music, be sure to check out two options in settings: Set Now Playing artist art as my lock screen and Set Now Playing artist art as my [desktop] wallpaper. They work exactly as you’d expect.

Finally, Groove Music also lets you make and manage your own playlists via the Playlists area at the bottom of the navigation bar. Playlists are lists of songs that can be played together as a group, like the modern version of a mix tape. That is, they're a way for you to organize songs you like, or that go together well.



Unlike more sophisticated music apps, Groove Music only supports basic playlists, and not smart playlists that can auto-populate based on certain rules (highly-rated songs by a certain set of artists, perhaps). And playlist support in Groove Music is further hampered by the app's lack of a music subscription service, which would give you access to tens of millions of songs in the cloud.

## Tweak music playback with the equalizer

Groove Music includes a software-based *equalizer* that helps you customize—or *sculpt*—the how music playback sounds. This is ideal for audiophiles or anyone else who wishes to have fine-grained control over audio output. But it can also be used to help overcome deficiencies in your PC's speakers and sound system.



If you're not familiar with using an equalizer, you might consider this tool a superset of the more common Bass and Treble controls that are found in most sound systems. An equalizer is similar, but it lets you customize a wide range of sound frequencies instead of just two general tones.

The equalizer is only available in Groove Music settings. So open Groove Music settings and select the link "Equalizer" under the Playback section.

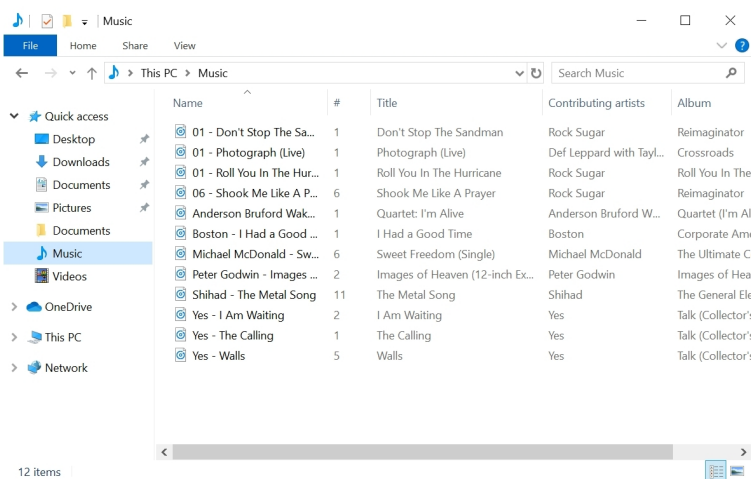


From here, you select a preset from the drop-down menu in the top left of the equalizer window. These are typically designed to address particular playback issues (“Treble boost” and “Bass boost,” for example) or for particular types of devices (“Headphones,” “Laptop,” and the like). Then, you can adjust particular frequencies—Low, Mid low, Mid, Mid High, and High—to fully customize the sound to your liking.



## Find music on your PC or home network

On your PC, Groove Music looks in your Music folder for music.







Any music that Groove Music finds on your PC will be displayed in the My Music views in the app. To view *only* the music on your PC, change the filter option to “Only on this device.”

You don’t have to (just) use the Music folder, however. You can also configure Groove Music to look for music in one or more other locations. These locations can include other folders—perhaps on other drives—on your PC and network folder shares too.

To add a new folder to Groove Music, open the app settings via the Settings button (gear) in the navigation pane and select the link “Choose where we look for music.”

## Pin your favorite music to Start

Groove Music lets you pin the music that you listen to most often to the Start menu. So instead of just launching the app and finding the content you want, you can link to the content you want directly from the Start menu.

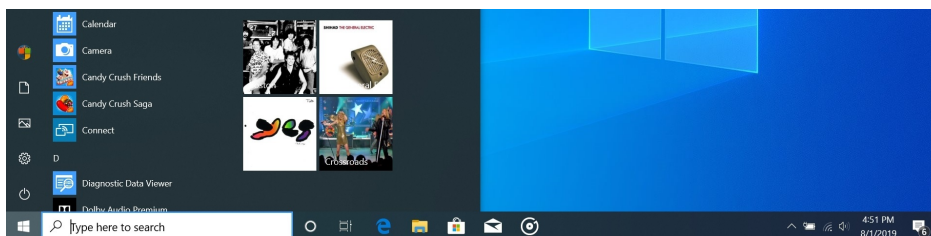
This works with any album, artist, song, or playlist, and can include content that is on your PC or your local network.

Pinning music works exactly as you’d expect: Simply right-click (or tap and hold on) the item in Groove and choose “Pin to Start” from the pop-up menu that appears. You’ll be prompted to make sure you really wish to pin that item to Start.

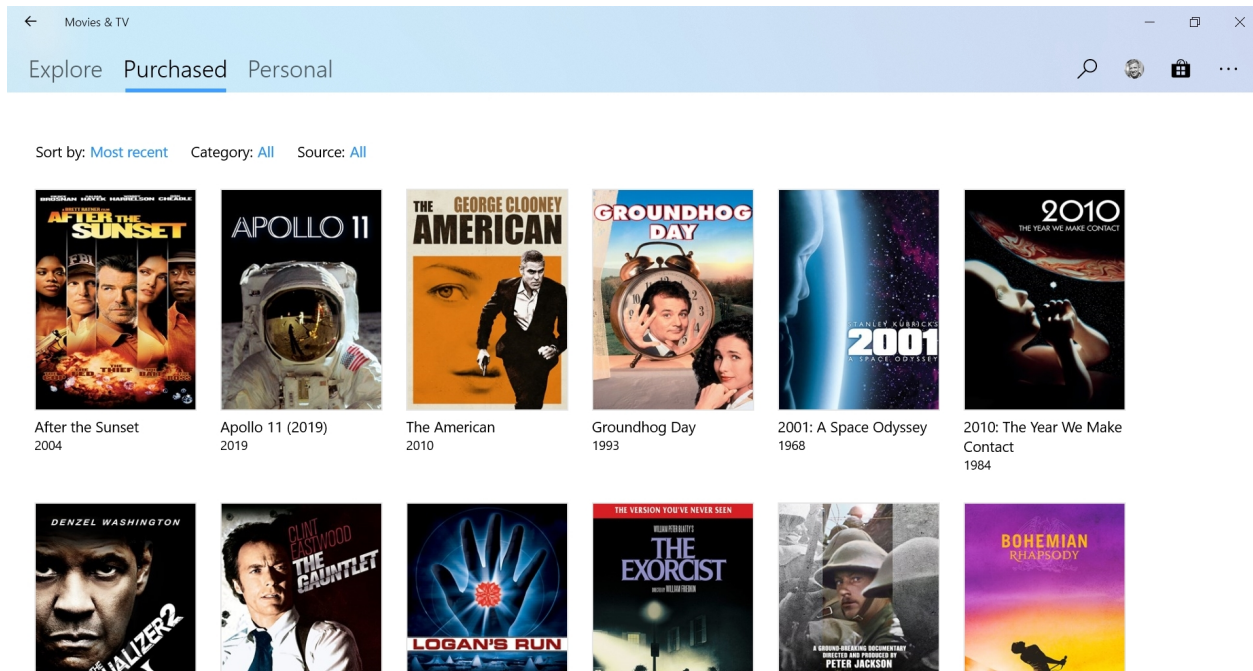


If you right-click an item that is already pinned, you will see an Unpin item in the pop-up menu instead.

Like any pinned tiles in Start, these music tiles can be arranged and grouped as needed, and you can of course name any groups as you would normally.



# Movies & TV



## Get to know the Movies & TV app

The Movies & TV app helps you manage and play videos on your PC and other PCs and devices on your home network, plus any video content you have purchased or rented from the Microsoft Store. It's also compatible with a service called Movies Anywhere, which allows you to access some content that you've purchased from competing video services, including those from Apple, Google, and others.

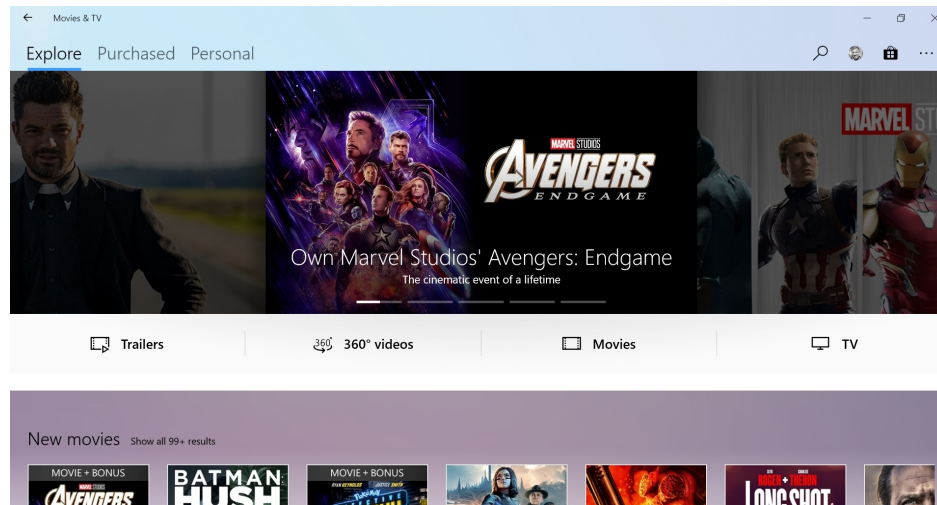


In some markets, Movies & Video is called Film & TV.

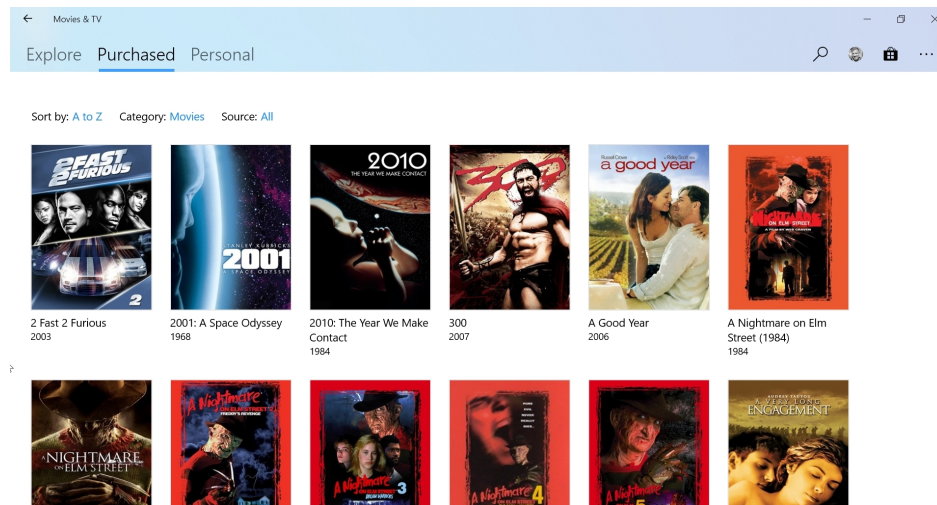
Movies & TV is a simple app and is readily understood. It provides the following major views.

**Explore.** This view showcases movie trailers, free 360° videos that you can watch on your PC or, with a Windows Mixed Reality headset, in virtual reality (VR), plus movie and TV content you might wish to purchase (or, in the case of movies, rent) from Microsoft.



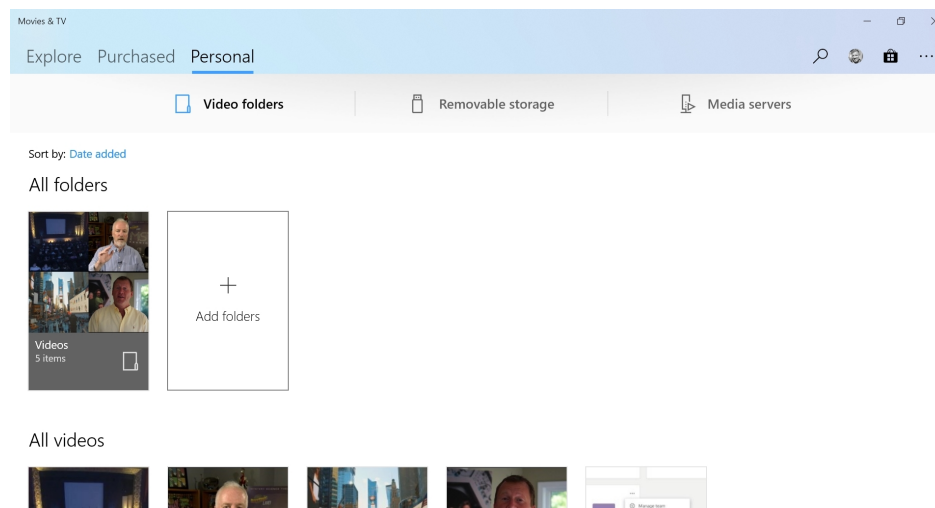


**Purchased.** Here, you will find the movies and TV shows you have purchased (or rented) from Microsoft. This content is tied to your Microsoft account, so you will need to sign-in to that account to access your purchases.



If you connect your Microsoft account to the Movies Anywhere service, you will also see movies you've purchased from Amazon Prime Video, Apple iTunes, Google Play Movies & TV, and other compatible services here. This is described later in the chapter.

**Personal.** This view displays any personal videos you have on your PC, removable storage, or the network-attached media servers in your home. These are non-protected videos that you did not acquire from the Microsoft Store.



## Configure Movies & TV

Before getting started with Movies & TV, you should consider configuring a few options. Much of this configuration occurs in the app's settings interface, which is accessible via More options ("...") > Settings.

If you have not signed in with a Microsoft account, you will only see a handful of options, but all of them are important.

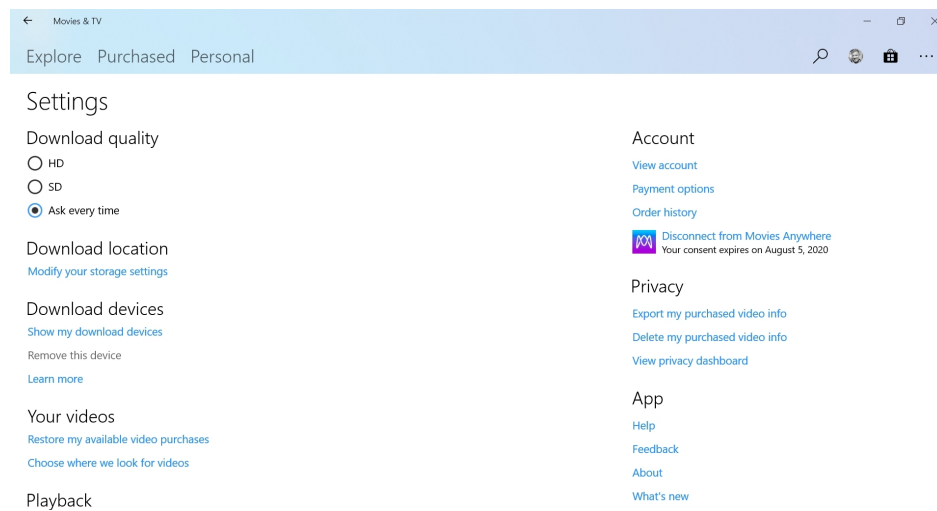
They are:

**Choose where we look for videos.** By default, Movies & TV will display any non-protected videos it finds in your Videos folder. But you can select this option to configure other folders you may use for videos as well.

**Playback.** By default, Movies & TV will play videos in a normal app window, and you can switch to a full screen display manually. But if you would prefer for this full screen display to be automatic, you can change this option to On.

**Mode.** Like many built-in Windows 10 apps, Movies & TV can be configured to use a Light or Dark app mode—what most people would call a *theme*—or it can use the system app mode automatically. Even if you prefer the Light app mode, you may wish to configure Movies & TV to utilize a dark app mode instead.

If you do sign-in with your Microsoft account, several more options appear in settings.



Key among them are:

**Download quality.** Movies & TV lets you purchase or rent content from the Microsoft Store in SD (standard definition), HD or UHD (4K) formats. Here, you can choose to pick the download format at purchase time (the default) or select from the available format choices.

**Download location.** By default, purchased content is downloaded to your Videos folder. You can't choose a different folder, per se, but you can choose to download purchased content to a different drive, if one is available. This configuration occurs in Settings > System > Storage > "Change where new content is saved." Select the option "New movies and TV shows will save to:" to choose a new drive.

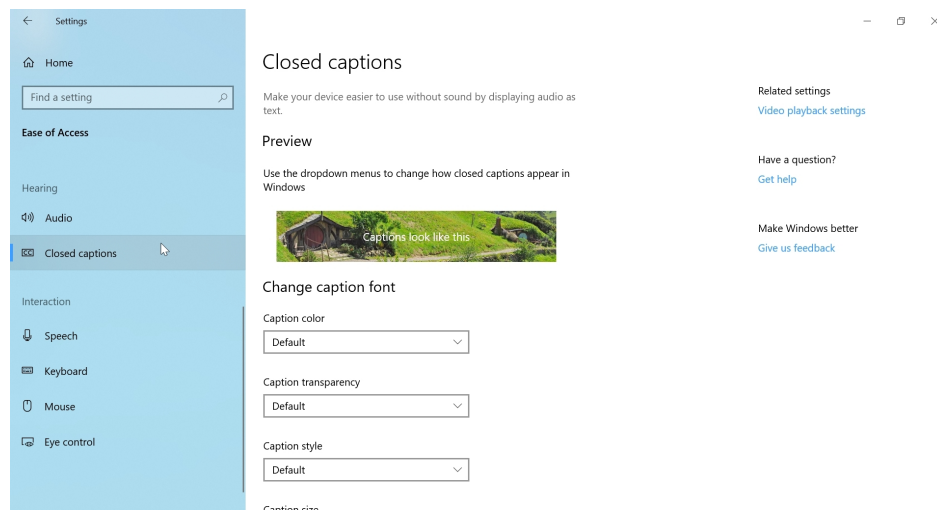
**Account.** You can access your Microsoft account, payment options, and order history on the web via a set of links under Account.



There's also a link for connecting your Microsoft account to the Movies Anywhere service. This functionality is described later in the chapter.

In addition to the settings available in the app, you may wish to configure how subtitles look and work in Movies & TV. You do so in the Windows Settings app.

To see your options, navigate to Settings > Ease of Access > Closed captions.



As you might imagine, the changes you make here can have a profound effect on the text you see on-screen. But if you go too far, you can always select the “Restore to defaults” button at the bottom.

## Play and control a video

To play a video, select it from any view in the Movies & TV app. Or, you can do so by opening the video file from the desktop or File Explorer.



Movies & TV is configured as the default video playback app by Microsoft, but it’s possible that you or your PC maker has configured a different app as the default. If so, you can always use File Explorer’s “Open with” function to use Movies & TV instead. Or, just change the default in Settings > Apps > Default apps.



Movies & TV supports non-protected videos in all popular video formats. So it’s unlikely that you will actually need a third-party video player, as was the case with previous Windows versions.



The video playback experience provides a set of controls that disappear after a few seconds of inactivity. To display them again, move your mouse, press a key, or tap or press on the screen (if you have a touch- or pen-enabled display).

The following controls are available:

**Previous video and Next video.** When you are playing a personal video, you will see arrow-like Previous video and Next video buttons on the left middle and right middle sides of the screen, respectively, so that you can navigate to another video in the same folder.



These controls do not appear when viewing purchased or rented videos.

**Video scrubber.** This progress bar-like control lets you move directly to any point in the video. Or you can “scrub” through the video by dragging the large circular position marker with your mouse or finger (on a touch-capable display).

**Volume.** Here, you can set the video playback volume separately from the system volume.

**Subtitles and audio.** This control lets you enable any subtitles (or closed captions) and audio tracks that may be available in a video, or load an external subtitle file.

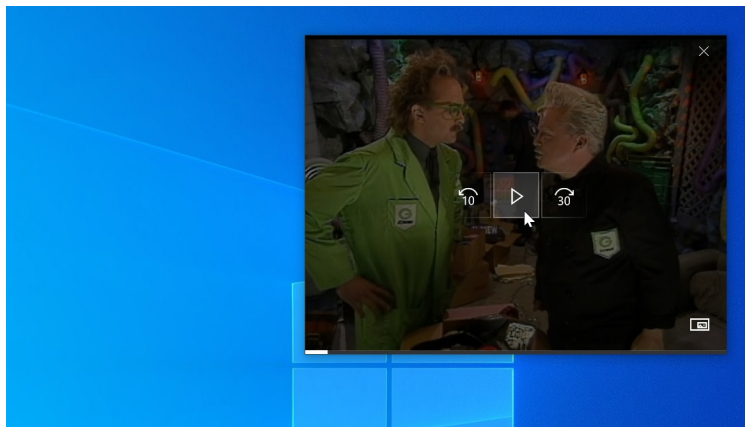


We discuss how to load an external subtitle file later in the chapter.)

**Playback controls.** Here you can access buttons to Play/Pause, Skip back (10 seconds), or Skip forward (30 seconds).

**Edit in Photos.** Available only with non-protected personal videos, this command opens a menu with options to view the video in the Photos app, edit the video with the Photos app, and access specific Photos app video features like Trim, Draw, Create slow motion video, and Save photo from video.

**Play in mini view.** This control places video playback in a miniature, Picture-in-Picture (PIP) type window that you can size and position on screen as desired. While in this mode, Movies & TV will visibly remain on top of other on-screen windows, so you can enjoy video content while doing other things.



**Full Screen.** This control lets you toggle video playback between normal and full screen modes. In full screen mode, the Windows desktop, including the taskbar, disappears and video playback literally occupies the entire screen.



You can also configure Movies & TV to always play video in full screen mode, as described earlier.

**Cast to device.** This option, available in the Show more options menu (“...”), lets you wirelessly “cast” the playing video to a Miracast-compatible screen. This capability is described in more detail later in the chapter.

**Zoom to fill.** This option, available in the Show more options menu (“...”), toggles the display of the playing video between its native aspect ratio (16:9 or 4:3, perhaps) and the aspect ratio of the app window (or, if the video is playing full-screen, the aspect ratio of the screen on which it is playing).

**Repeat.** This option, available in the Show more options (“...”) menu, toggles video playback from its default—play once—to repeat, where the video will looped endlessly until manually stopped.

**Autoplay.** This option, available in the Show more options menu (“...”), is aimed at those bingeable TV shows that are so popular these days: If selected, it will automatically play the next video—or, in the case of TV, the next episode—so you can keep watching automatically.

**Play as 360° video.** This curious option plays a normal (2D) video as if it were a 360° video, so that



you can pan around the video in any direction using your mouse or, on a multitouch display, your finger. This makes more sense for those viewing videos with a Windows Mixed Reality headset.



You can also change the view of a 360° video with the directional controls in the upper right.



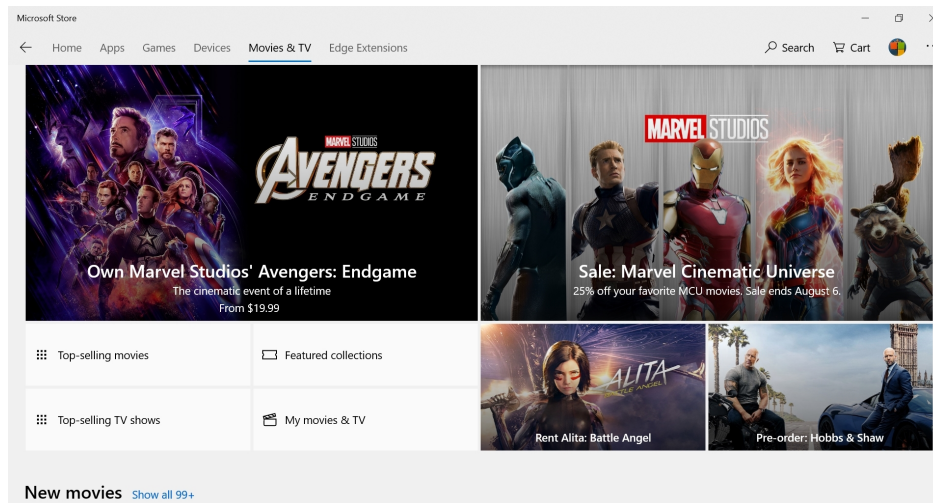
Videos that are natively recorded as 360° video look nicer than normal videos that are stretched like this, of course.

## Rent a movie from Microsoft

Windows offers movies for rent via the Microsoft Store. You can do so by launching the Store app directly, or by selecting the “Get movies and TV in Store” button in the upper right of the Movies & TV app window.

Rentals come with rules. Once you pay for a rental, you only have two weeks (14 days) to begin watching it. And once you begin watching a rental, you have 24 hours to finish watching it.

To rent a movie, open the Store app and navigate to Movies & TV.



The Store navigation experience is straightforward, and browsing for a movie to rent works much like other Store content, as described in the *Microsoft Store and Apps* chapter.

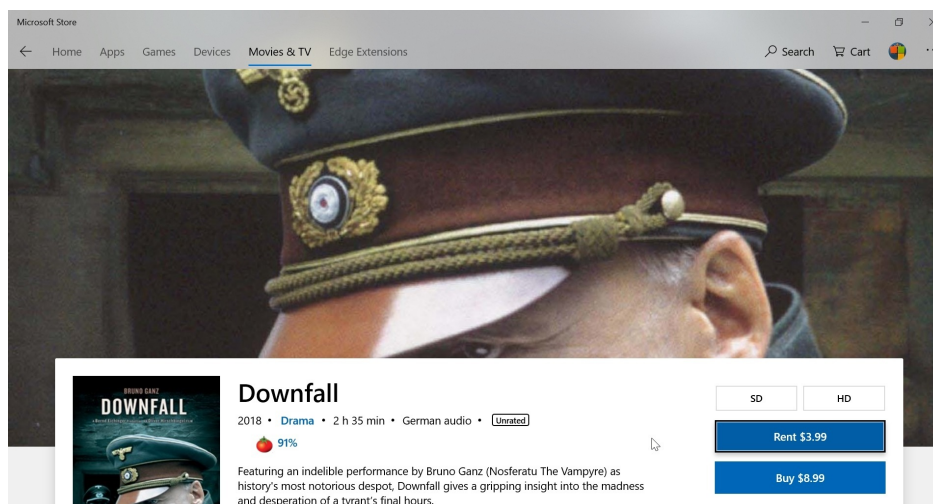


New movies are available for purchase but not rent for a short time period when they are first released.

When you find a movie to rent, select between the SD, HD, and UHD options. Then, select the “Rent” button.

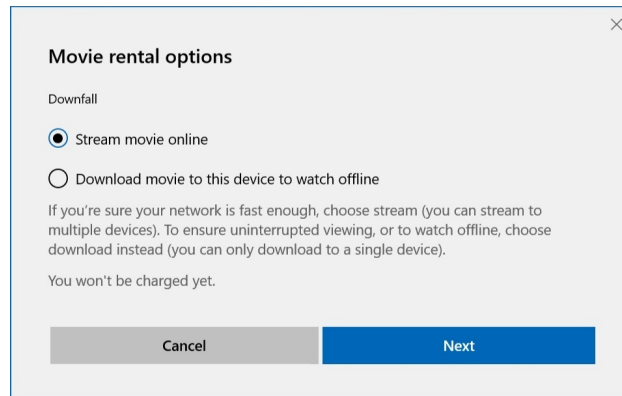


HD is typically a bit more expensive, but this format provides better picture quality than SD. UHD is even more expensive, but offers a higher quality 4K resolution.





Assuming you've already configured one or more payment methods with your Microsoft account, you are then prompted to stream the movie online or download the movie to your PC so you can play it back later, even if the PC is offline.



**Movie rental options**

Downfall

☒ Stream movie online

☐ Download movie to this device to watch offline

If you're sure your network is fast enough, choose stream (you can stream to multiple devices). To ensure uninterrupted viewing, or to watch offline, choose download instead (you can only download to a single device).

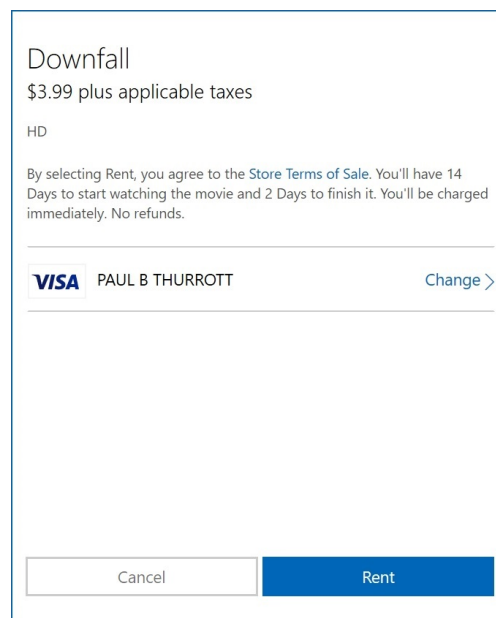
You won't be charged yet.

Cancel Next



These choices are even more nuanced than is perhaps obvious. If you choose the stream option, you can watch the rental on any Windows 10 PC or Xbox One, and can switch back and forth between them if you like during the rental period. But if you choose to download the video, it is “locked” to that one PC, meaning that you will only be able to watch it on the PC you're currently using. So choose carefully.

After making your choice, you will be prompted to authenticate against your Microsoft account using Windows Hello or some other method. And then you can finish the transaction using your default payment method or by choosing from the other payment methods—credit cards, a PayPal account, a Microsoft account balance, and so on—that you have configured for your account.




Downfall

\$3.99 plus applicable taxes

HD

By selecting Rent, you agree to the [Store Terms of Sale](#). You'll have 14 Days to start watching the movie and 2 Days to finish it. You'll be charged immediately. No refunds.

 PAUL B THURROTT [Change >](#)

Cancel Rent

Once this multi-step process is complete, the movie will download to your PC, if you chose that option. Or you can simply begin streaming it immediately.



Rented movies appear in the Purchased view in Movies & TV alongside your purchased videos. They disappear automatically after the rental period ends, or after you've watched them and the viewing period ends.

## Purchase a movie or TV show from Microsoft

Microsoft provides movies, movie bundles, TV show episodes, and TV show seasons for purchase from its online store. Purchased content can be played from any compatible device, including Windows 10 PCs and Xbox One video consoles.

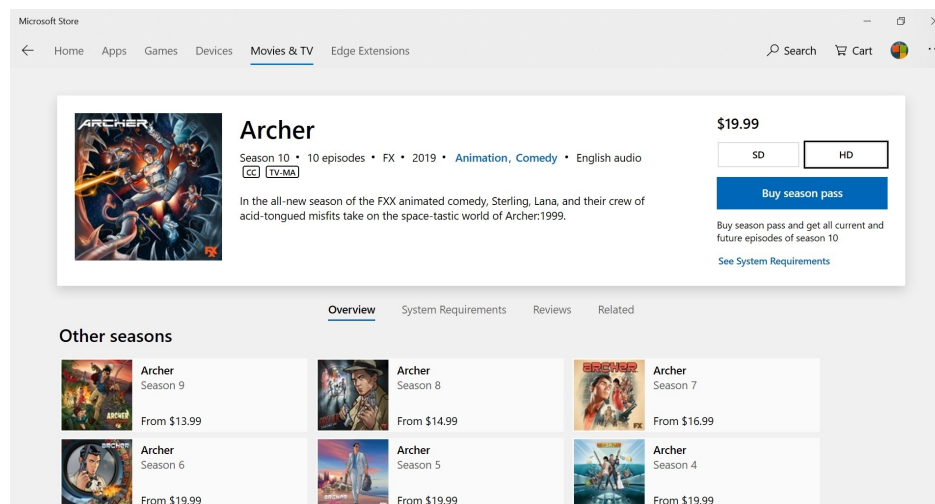


This content *cannot* be played back on a mobile device like a smartphone or an iPad, nor can it be played back on a TV-based video streaming set-top box like an Amazon Fire TV, Apple TV, or Roku. If you intend to watch purchased movies on any of these devices, Movies & TV is not a great option. See the next section for a partial workaround to this issue.

Purchases work much like rentals. And as with rentals, they occur in the Store app and not in Movies & TV.

To purchase a movie or movie bundle, navigate to the content you want, choose a format—HD, SD, or, in some cases, UHD (4K)—and then select the “Buy” button.

If you are purchasing TV content, you will see options to purchase individual episodes and, when available, select from previous TV show seasons.



## Watch movies you've purchased from other services

One of the issues with purchasing content from online video services like Microsoft Movies & TV is that it's not compatible with other services and applications. Likewise, Microsoft doesn't offer a mobile version of the Movies & TV app, so you can't watch purchased content on your smartphone or iPad.

Fortunately, a service called [Movies Anywhere](#) solves this problem, at least partially. Movies Anywhere lets you sync the content from the accounts you use on various video services—including Amazon Prime Video, Apple iTunes, Fandango, Google Play Movies & TV, and Vudu, in addition to Microsoft's—and then access any eligible digital movies you've purchased from any of them using any compatible app. And since six of the biggest movies studios—Disney, Sony, Twentieth Century Fox Film Corp., Universal, and Warner Bros.—are all participating, a good portion of the movies you've purchased across various services should become available everywhere, including in Movies & TV in Windows.

There are, of course, some important caveats to know about.

- Three of the biggest movies studios—Lionsgate, MGM, and Paramount—do *not* cooperate with Movies Anywhere. So digital purchases of movies made by those studios will not be included, and will not appear in Movies & TV (and in other Movies Anywhere-compatible apps).
- Even the studios that are participating with Movies Anywhere do not allow all digital movie purchases to be used with the service. So you may find that some movies you've purchased elsewhere that were made by a participating studio do not show up in Movies & TV.
- Movies Anywhere only works with digital movie purchases. It is not compatible with movies purchases in physical formats like Blu-Ray or DVD. It is not compatible with movie rentals. And it is not compatible with TV shows.

Despite these limitations, we feel that Movies Anywhere is an excellent solution and that anyone hoping to use Movies & TV in Windows should link their Microsoft account to the service so that they can access the movie purchases they've made elsewhere. In our experience, between one-half and three-quarters of our digital movies purchases are available through the service.

## Connect Movies & TV with Movies Anywhere

Before you can connect Movies & TV with Movies Anywhere, you will need to create an account with Movies Anywhere. To do so, open Movies & TV and navigate to More options (“...”) > Settings. Then, select the “Connect to Movies Anywhere” link under Account.



This option will not appear unless you have signed in with your Microsoft account.

A web browser window will open and navigate to the Movies Anywhere website. There, you can create a new account or sign-in to an existing one. Then, from the site's [Manage Retailers page](#), you can link your the Microsoft account used by Movies & TV to Movies Anywhere.



While you're there, you should also link the other online accounts you've used to purchase digital movies—Amazon, Apple, and so—to Movies Anywhere.

## Access (some of) your movies purchases on mobile

Microsoft doesn't make a mobile app version of Movies & TV for Android devices, iPhones, or iPads. But thanks to Movies Anywhere, you can still access some portion of your digital movie collection.

To do so, simply use a compatible mobile movies app, including Apple TV (iOS), Amazon Prime Video (Android, iOS), Google Play Movies & TV (Android, iOS), and so on. These apps all include offline support, too, so you can download compatible movies to your device and watch them offline. Or, you can simply stream movies over your Internet connection.



You can likewise access some of your digital movie purchases in your living room using a Movies Anywhere-compatible app on your Amazon Fire TV, Apple TV, Android TV, Chromecast, Roku, smart television, or similar.

## Use subtitles

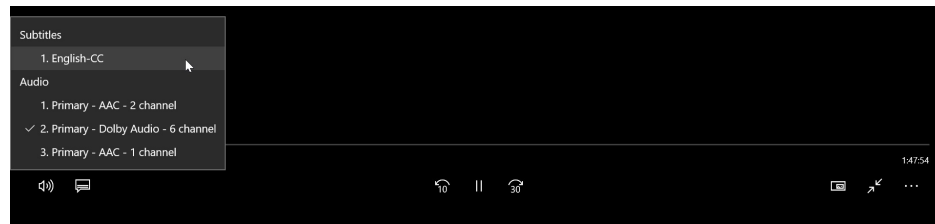
Movies & TV can display *subtitles*—usually a transcript of the dialog and other audio—on-screen during video playback. This is true of both purchased content and personal videos.



The terms *subtitles* and *closed captioning* are often used interchangeably. Technically, these capabilities are slightly different. But they both perform the same basic function.

## Use subtitles with rented or purchased content

Most of the video content that you purchase or rent from the Microsoft Store includes subtitles. To see which options are available for a rented or purchased video, select the “Show menu for subtitles and audio” button during playback. A pop-up menu will appear.



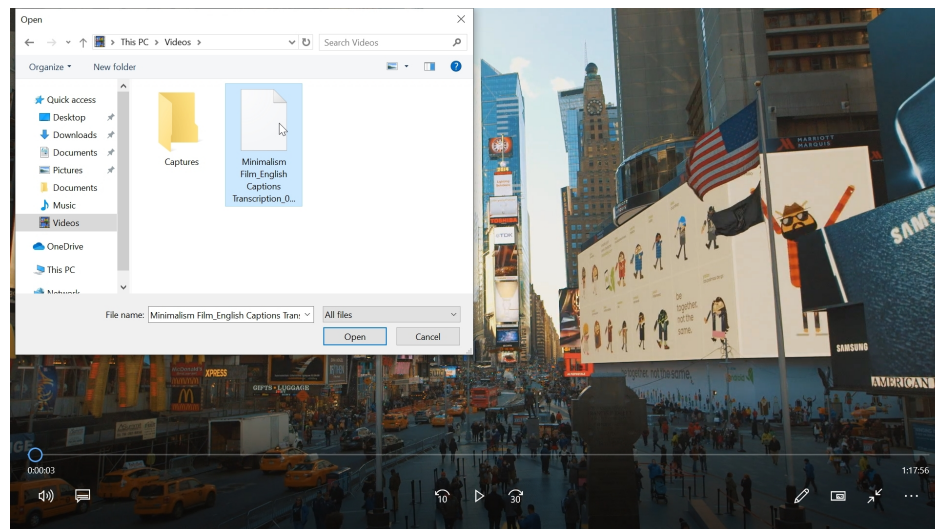
What you see here will vary by movie. For example, some videos offer multiple captioning tracks, sometimes in different languages.

## Use subtitles with personal videos

If you own personal videos with integrated subtitles—which is unlikely, though some DVD ripping solutions offer this capability—then Movies & TV will work much as it does with rented or purchased videos. But Movies & TV also lets you add external subtitle files to videos you acquire outside of the Microsoft Store.

For example, videos from services like [Vimeo](#) often include SRT (Subrip subtitle format) subtitle files for download separately from the videos. These files let you add and then view subtitles with compatible players.

To do so, open a video for which you have a separate subtitle file and then press Pause. Then, select the “Show menu for subtitles and audio” button and select “Choose subtitle file” from the pop-up menu that appears. In the Open dialog that appears next, select the subtitle file and then choose Open.



Now, subtitles will be enabled and that file will be an option in the Closed captioning menu.



DAN HARRIS: So much of our life is lived in a fog of automatic, habitual behavior.



You can configure the appearance and behavior of subtitles in the Settings app as described earlier in the chapter.

## Wirelessly cast a video to an HDTV or other display

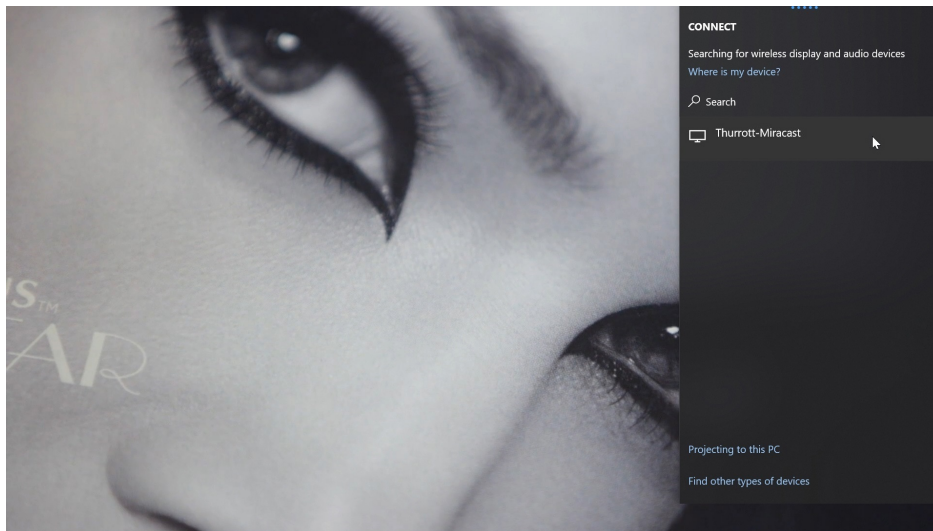
Movies & TV integrates with a Windows feature called Project which lets you wirelessly stream or “cast” content to a bigger display using a technology called Miracast.

For this to work, your PC must include a Miracast-compatible Wi-Fi adapter (most do). Also, your television or other display must be natively Miracast-compatible or connected to a Miracast-compatible device like [Microsoft’s Wireless Display Adapter](#). (Which is much more unusual.) And both devices must be connected to the same Wi-Fi network.

Here’s the Microsoft Wireless Display Adapter.



To cast a video to an external, Miracast-capable display, begin playback with the Movies & TV app. Then, select “Cast to device” from the Show more options menu (“...”). A Connect pop-up will appear.



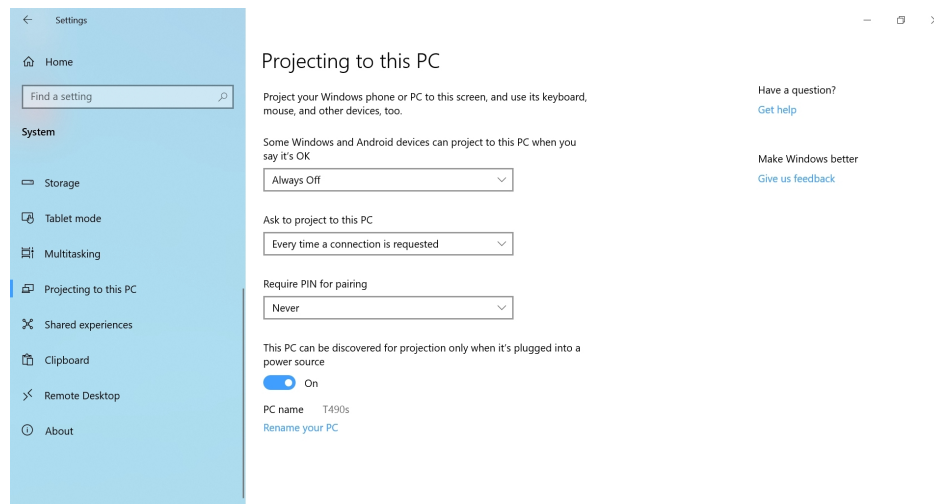
Select the device you wish to cast to—in this case, Thurrott-Miracast, which is a Microsoft Wireless Display Adapter connected to a 4K/UHD television—and your entire Windows desktop—including video playback in Movies & TV—will switch to the external display.

When you're ready to stop casting, open the Show more options menu (“...”) and then select Cast to Device > Disconnect.



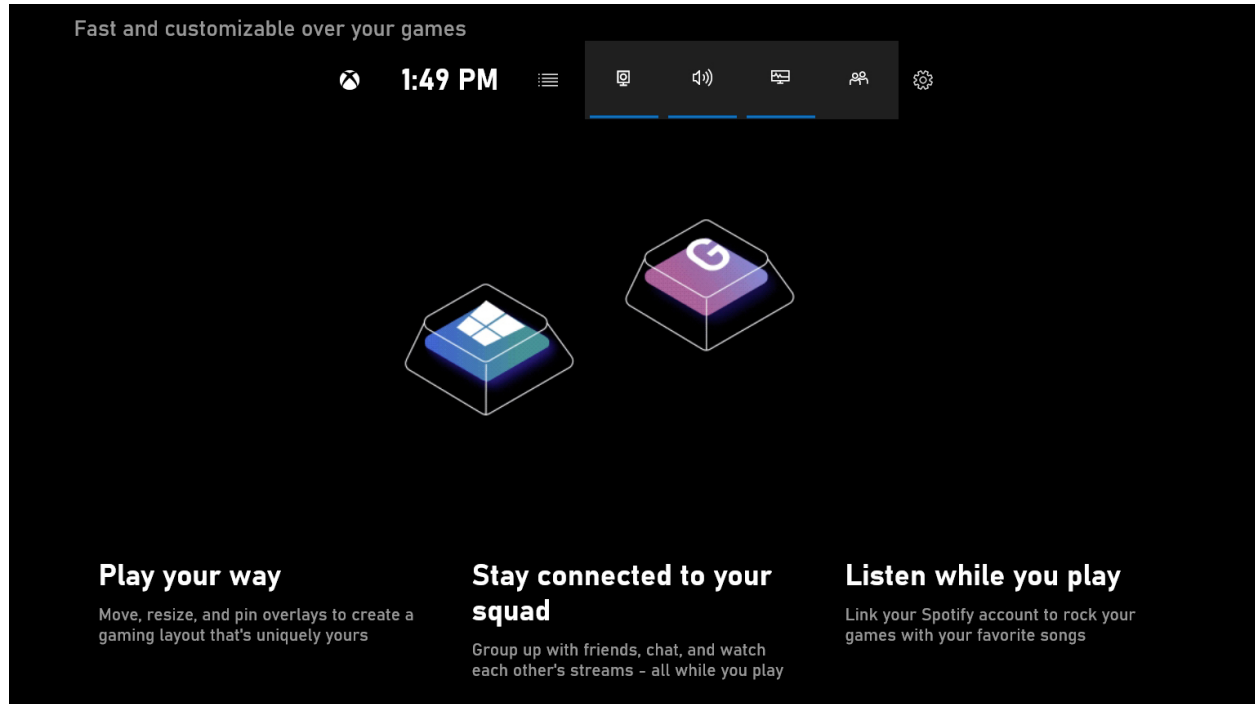


This is less common, but you can also cast your PC's display to another PC's display, assuming that the second PC is running Windows 10, has a Miracast-compatible Wi-Fi adapter and is connected to the same Wi-Fi network. To do so, configure the second PC to act as a display by navigating to Settings (WINKEY + I) > System > Projecting to this PC. Then, configure three options to your liking and connect to this second PC as if it were a wireless display.





# Xbox and Games



## Get to know Windows gaming

Windows is a great environment for playing video games. And that's true whether you're a hardcore gamer, a virtual reality (VR) enthusiast, or just someone who occasionally engages in more casual gaming pursuits.

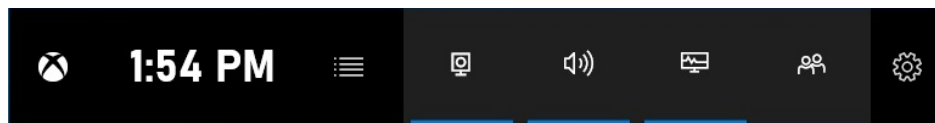


Windows 10 supports games that were designed for previous Windows versions as well as newer Microsoft Store games that only work with Windows 10. (Or, in some cases, work with both Windows 10 on PCs and with the Xbox One video game consoles.)

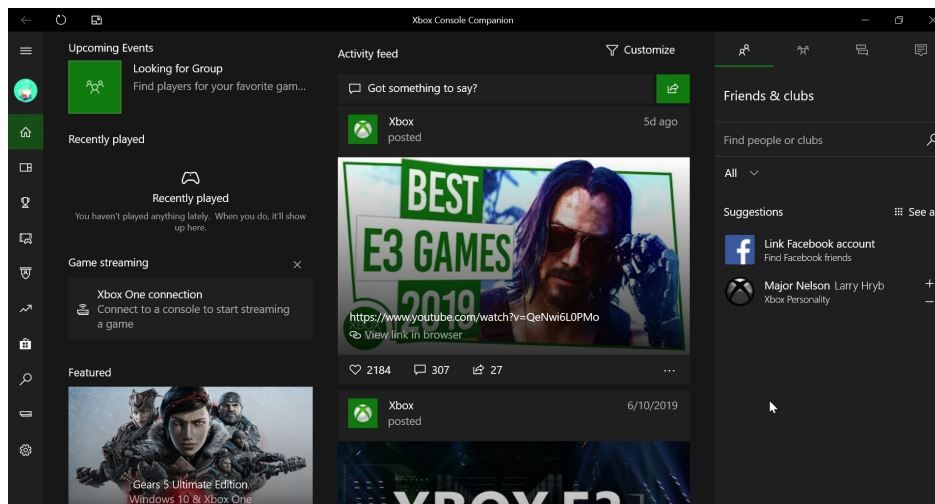
Windows lets you play games with an Xbox Wireless Controller in addition to keyboard and mouse.



Windows includes a feature called Xbox Game Bar that lets you take in-game screenshots, record game clips, broadcast live game footage via Microsoft's Mixer service, and more.



And Windows includes an Xbox Console Companion app that lets you interact with your friends and games across Xbox Live, receive notifications, and more.



## Configure your PC to play games

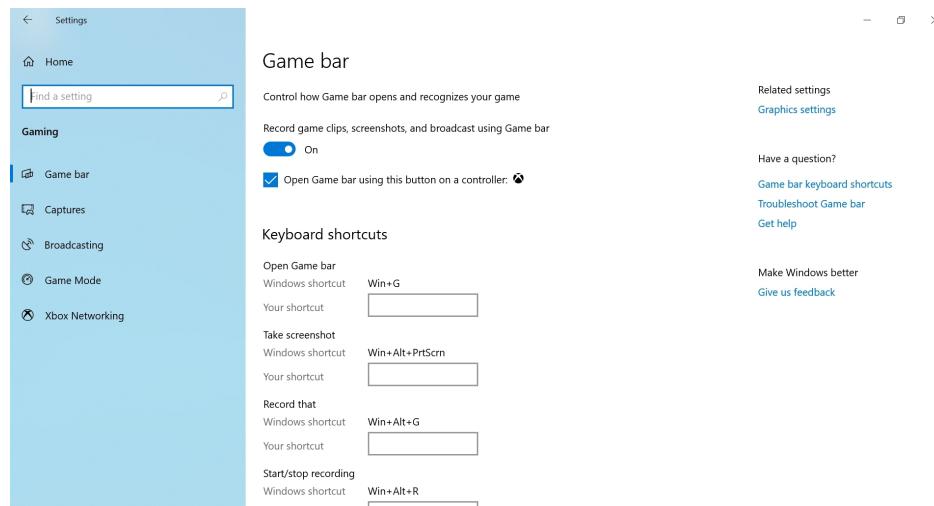
Before you get started with gaming in Windows 10, there are a few configuration changes you should consider making.



This is especially true if you plan to play any non-casual games and wish to optimize your PC for these experiences.

## Configure Gaming settings

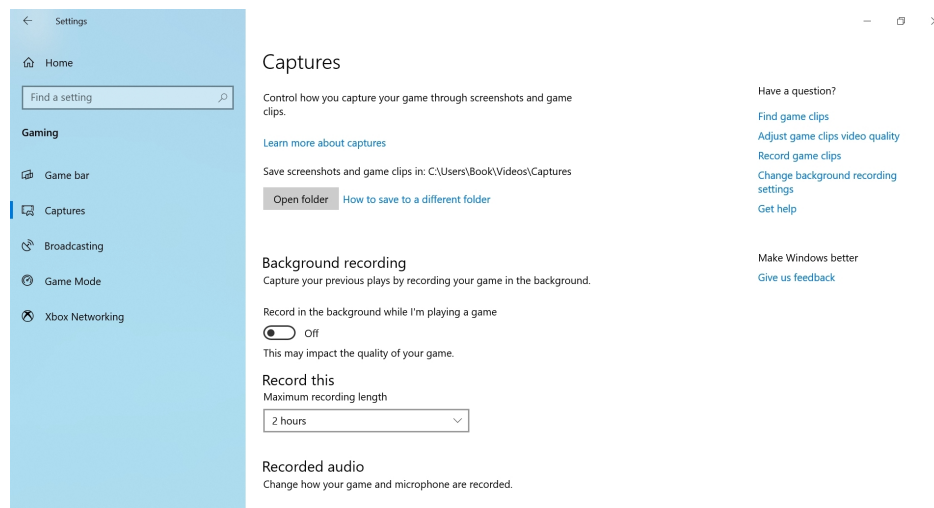
First, you should review and, if necessary, configure the Gaming settings in the Settings app. To do so, open the Settings app (WINKEY + I) and navigate to Gaming.



There are several pages in this interface, each tied to a specific Windows gaming feature. These are:

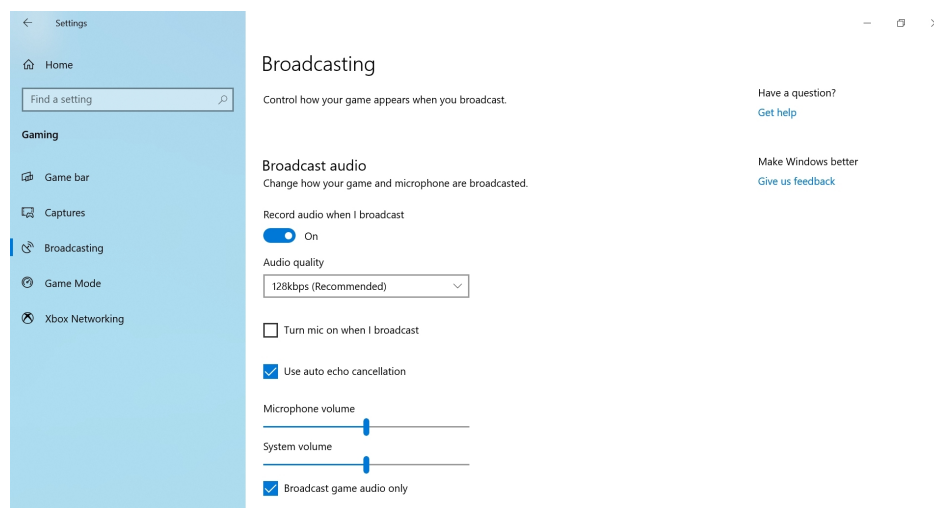
**Game bar.** You can enable a special overlay called the Xbox Game Bar while in a game to capture screenshots and video clips, control video broadcasting via Microsoft's Mixer service, and more. In Game bar settings, shown above, you can determine whether the Xbox Game Bar is available and, if desired, change its default keyboard shortcuts.

**Captures.** This interface is used to configure your PC's ability to capture screenshots and video clips while playing games. You can configure such options as the location for saved screenshots and clips, whether Windows should automatically record all game play sessions in the background, and the like.



If you intend to record any game clips—video recordings of your game play—you should spend time examining the related options here.

**Broadcasting.** Microsoft provides a free service called Mixer that lets you live broadcast your video game sessions, as they happen, via the Internet. This interface helps you configure various settings related to this capability, such as the the audio quality, the sound mix, and whether to use your webcam so you can be in the recording too.

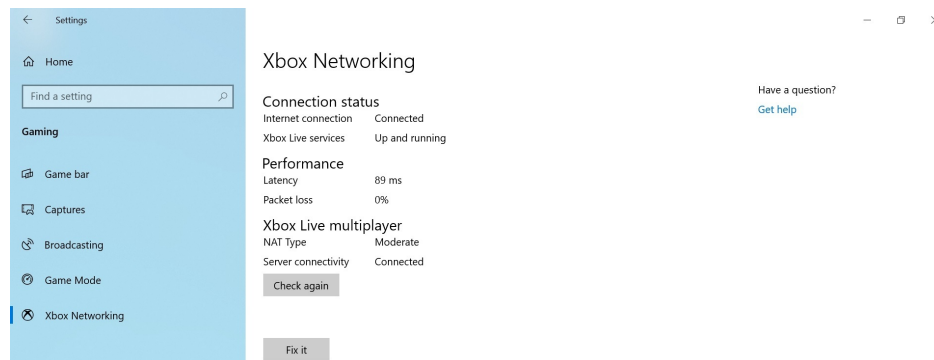


If you intend to live broadcast your game play, be sure to spend some time examining these options. Key among them is “Turn mic on when I broadcast,” which, when enables, lets you narrate the game play as you go. You can also enable your webcam here so that you appear on-screen during your live broadcasts.

**Game Mode.** Windows supports a special Game Mode that improves performance and minimize

distractions outside the game. There's little in the way of configuration here. If your PC supports this feature, you can simply toggle Game Mode on or off. (It's on by default.)

**Xbox Networking.** Xbox Live-capable games are played on the Internet like other games, but Microsoft also uses a networking technology called Teredo for security reasons. This interface displays some details about your network connection and provides a Fix it button that can help automatically fix any configuration issues.



## Connect and configure an Xbox Wireless Controller

You can use Microsoft's excellent Xbox Wireless Controller to play games on your Windows PC.

Somewhat confusingly, there are two different generations of Xbox One controllers. The original versions require a USB-based dongle called the [Microsoft Xbox Wireless Adapter for Windows](#) if you wish to use the controller wirelessly, while the newer versions also utilize Bluetooth wireless technology.



Both controller types can also be used in wired form with a micro USB cable. Using a cable will provide better performance as well.



If you're not sure which version of the controller you have, there's an easy way to check: the newer generation Xbox Wireless Controller has a stereo headset jack to the left of the expansion port on the bottom of the controller. The original generation controller, called the Xbox One Wireless Controller, does not have a headset jack.

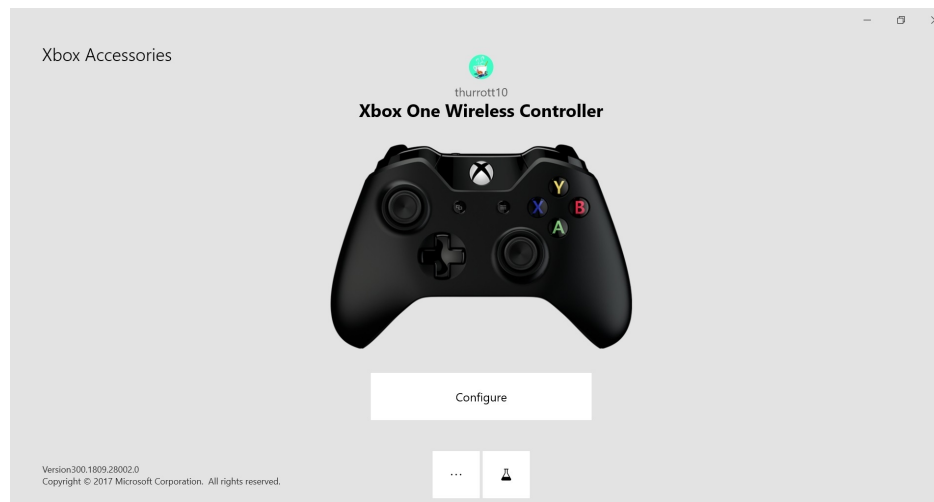
Connecting these controllers to your PC wirelessly varies a bit between the two generations.

If you have an original generation controller, plug in the USB dongle and Windows will automatically configure it. Then, you just need to *pair* your controller with the dongle as described in the peripheral's documentation.

The newer generation controllers are paired with your PC—assuming it has a Bluetooth chip, of course—just like any other Bluetooth device.

Windows will automatically configure the controller as needed no matter how you connect it. But you can further customize how the controller works—and download and install firmware updates for the controller—by using the [the Xbox Accessories app](#), which is available for free from the Microsoft Store.

The app will inform you if your controller needs a firmware update. Otherwise, you can use the buttons under the controller image to access additional functionality.



**Configure.** Select this button to access the controller configuration page, where you can map buttons, swap the thumb sticks, and perform other customizations.



Those with the expensive [Xbox Elite Wireless Controller](#) will see more even configuration options here.

**More options (...).** The display that appears when you select this button helps you find firmware updates and buzz your controller using its built-in vibration capabilities so you can find it when lost.

**Test Mode.\*\*** Here, you can test each of the buttons your controller to make sure it's working properly.

## Find and buy games

If you already own PC games from whatever source—disc-based games purchased at retail, digital games purchased from Steam, Epic Games, and other services, or whatever—you can of course install and play them normally, as you could with previous Windows versions.

But the Microsoft Store also lets you find and purchase games right in Windows. This is described in the Microsoft Store and Apps chapter. But there are a few further nuances related specifically to Microsoft Store games that you should be aware of. So we discuss those here.

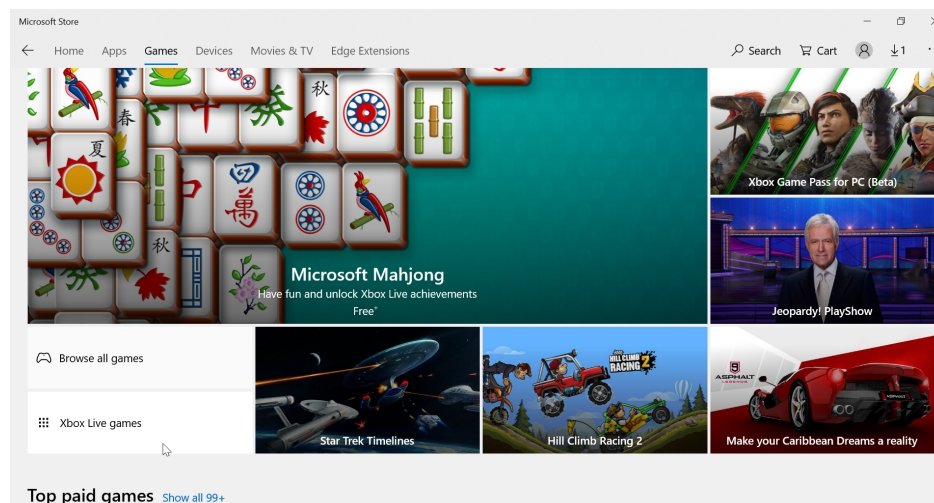
### Buy an Xbox Live game for Windows 10

Xbox Live games for Windows 10—games that integrate with Microsoft's online community and provide unique features such as achievements, game parties, and so on—are only available via the Microsoft Store.



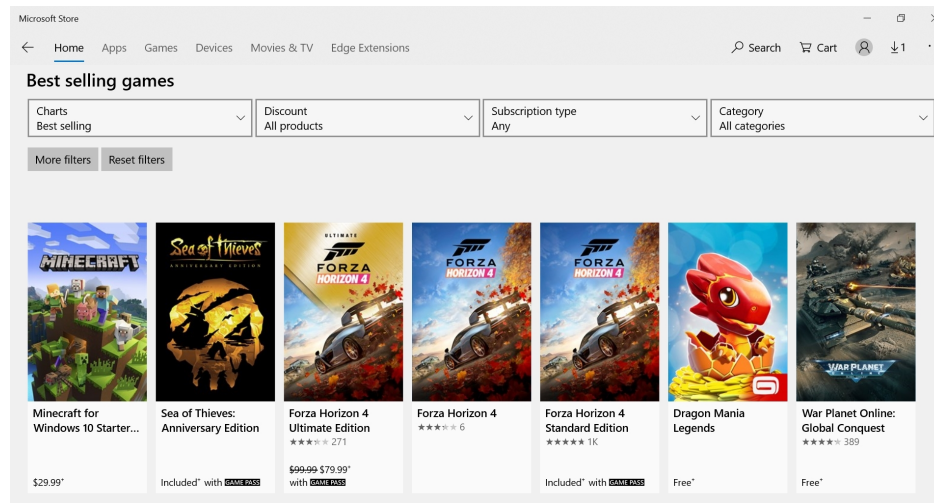
Xbox Live games for Windows 10 are sometimes referred to, more simply, as Windows 10 games. But this term is ambiguous and incorrect, as there are Windows 10 games available in the Microsoft Store that do not offer Xbox Live functionality.

To find Xbox Live games for Windows 10, open the Store app and navigate to Games. Then, locate the Xbox Live games tile, which is prominently displayed near the top of this area of the store.



Once you select this tile, you will be shown a complete list of the Xbox Live compatible games in the Store. This list includes many blockbuster games, as well as more modest titles made by smaller game studios. And it provides filters to help you fine-tune the grid of displayed games.



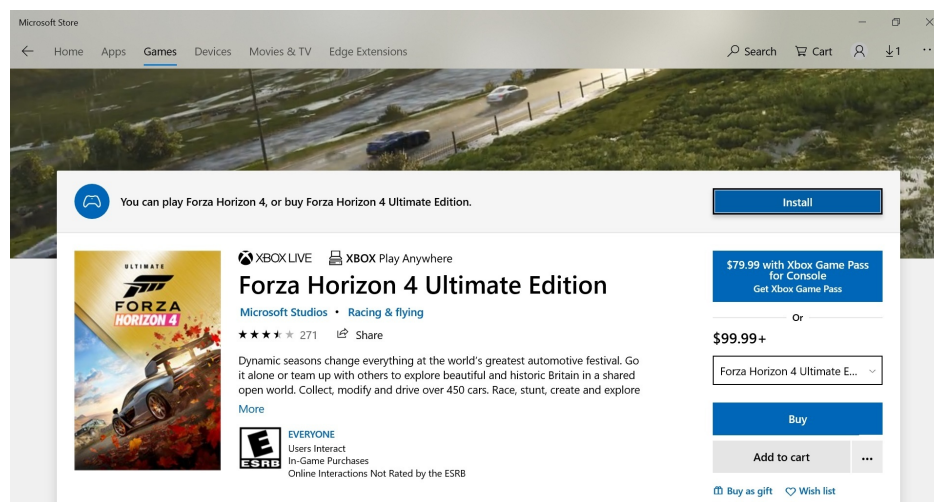


From here, the download and purchase processes work as they do with other Store apps and games. Please refer to the Microsoft Store and Apps chapter for more information.

## Buy a game that works on both Xbox One and Windows 10

In addition to Xbox Live games, the Microsoft Store also provides a growing list of *Xbox Play Anywhere* games. These games are also Xbox Live games, but when you purchase one, you get additional cross-platform benefits. For example, you can install these games on your Windows 10 PCs *and* your Xbox One console, and play them on both platforms. Furthermore, the games are interchangeable: Your progress is saved between the platforms, and your game saves, add-ons, and achievements apply to both.

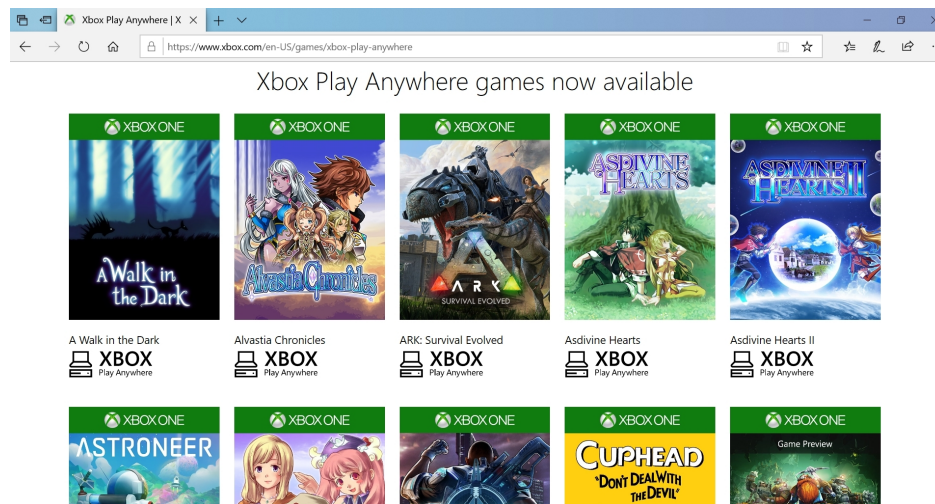
Unfortunately, the Microsoft Store does not yet provide a special area for Xbox Play Anywhere games. But when you are viewing such a game in the Store, the description will note whether it is Xbox Play Anywhere compatible.







As a workaround, you can also just visit [the Xbox Play Anywhere website](https://www.xbox.com/en-US/games/xbox-play-anywhere) with your web browser and view a complete list of these games. You can even buy Windows, Xbox One, and Xbox Play Anywhere games directly from this website.



## Play a game

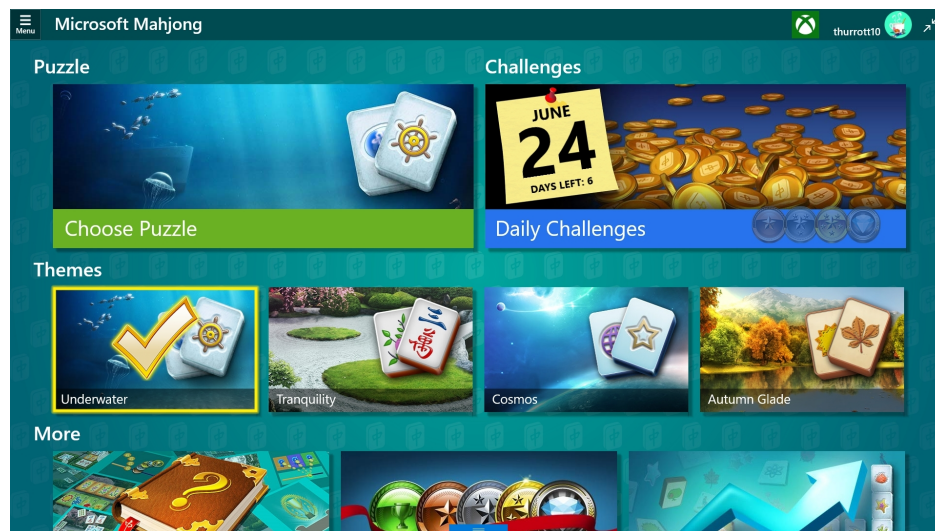
Games work as you would expect. So rather than focus on the basics, this section will instead highlight those things that are unique to games played in Windows, in particular those games you acquire from the Microsoft Store.

## Configure and control a game

When you launch a game, it will sometimes run in a windowed display mode, much like a normal app.



This is acceptable for some casual games like *Microsoft Solitaire Collection* or *Candy Crush Soda*. But you may prefer to run games full-screen instead. If a game doesn't automatically switch to the full-screen display mode, type ALT + ENTER. You can do so at any time to toggle a game between windowed and full-screen display modes.



You can also control the display mode on the fly from within a game. To do so, move the mouse cursor to the top edge of the screen—or, on a touch-screen, tap the top edge of the screen—to reveal a title bar with Minimize, Restore, and Close command buttons on the far right.



You can use the Restore button to toggle between full-screen and windowed display modes.

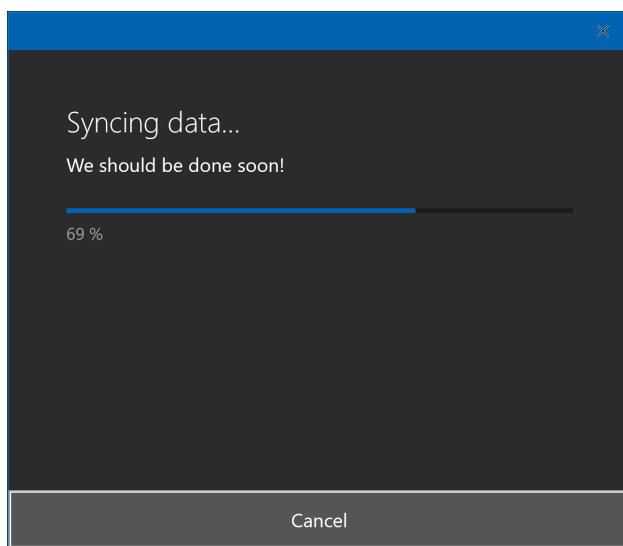


Most Store games also provide a display mode option in the in-game settings. The name and location of this option will vary from game-to-game, of course. But most games acquired from the Store will offer a way to enable full-screen mode at all times.

Store games all support keyboard and mouse usage, of course, but many—including all Xbox Live games—also let you use an Xbox Wireless Controller. If your controller is connected when you start the game, it will work immediately and automatically. But each game will provide custom controller configurations as well. Again, you can find these settings from within each game.

## Move between platforms with an Xbox Play Anywhere game

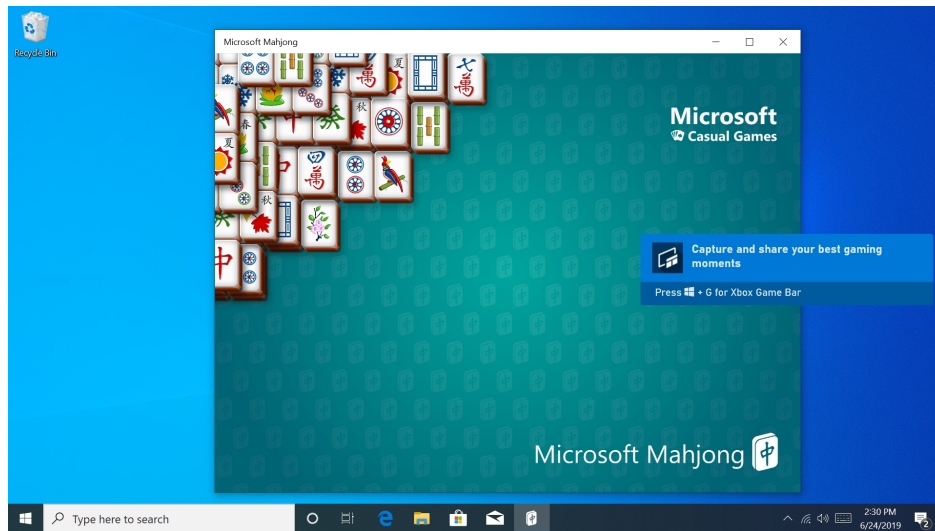
As noted earlier in the chapter, Windows supports cross-platform play features courtesy of an Xbox platform feature called Xbox Play Anywhere. When you buy this type of game, you can install it on both your Xbox One and Windows 10 PC. And then you can switch between the two devices; your in-game progress, in-game purchases, achievements, and more moves with you automatically. All you will see is a Syncing data window when you first run these games.



## Capture and broadcast your game play content with the Xbox Game Bar

Windows provides a handy feature called the Xbox Game Bar that lets you record and then share your game play experiences—including screenshots, video clips, and even live game broadcasts—with others in unique ways.

You will see a pop-up tip Xbox Game Bar tip whenever Windows has detected that you have launched a game.

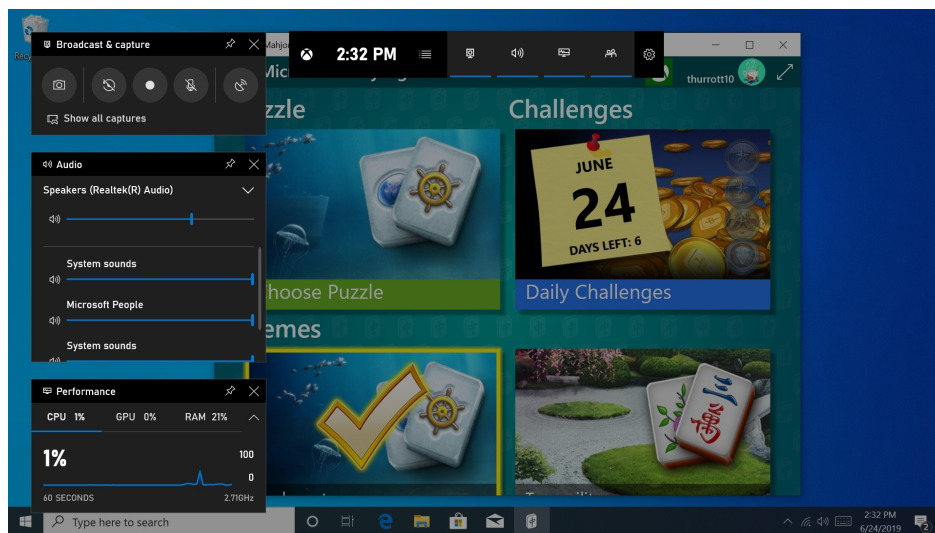


And as that tip notes, you can summon the Xbox Game Bar at any time by typing WINKEY + G.



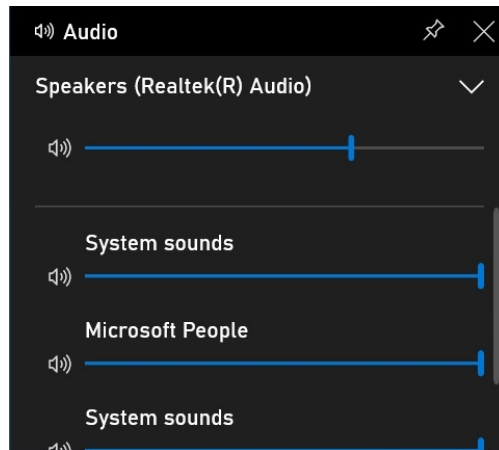
If you are using an Xbox Wireless Controller to play games, you can also display the Xbox Game Bar by pressing its Xbox button (which is white when lit up and located in the center of the controller).

When you do, the Xbox Game Bar and some sub-windows, each with specific functionality, appear as overlays over the game.



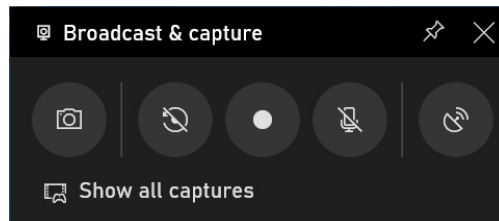
The following Xbox Game Bar overlays are available:

**Audio.** This overlay lets you configure the audio device that will be used for game audio, which can be handy if you wish to use something other than the default audio device in Windows. It also lets you set the volume level for that device globally and individually configure the audio output level for each application and game using the device.



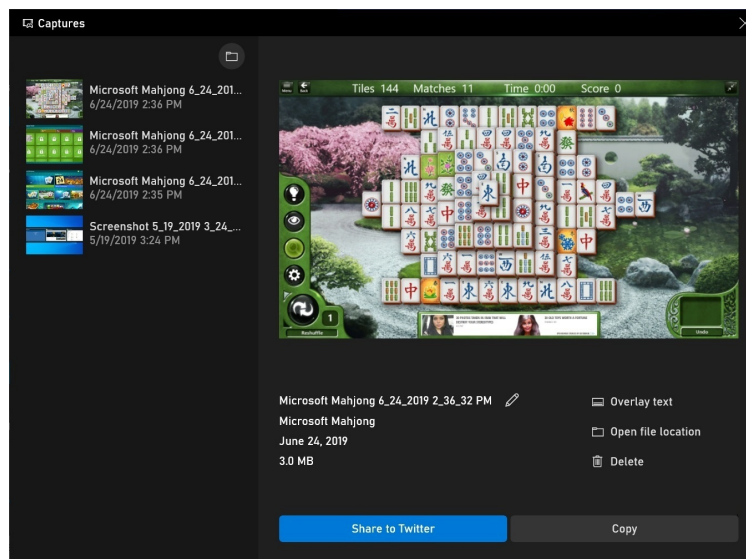
Yes, you can access most of this functionality from the Volume icon in the taskbar's notification area. But that icon will be hidden if you're playing a game full-screen, as is often the case.

**Broadcast & capture.** This handy overlay is the front-end for all of your screenshot, video recording, and broadcasting endeavors. We cover each of these features later in the chapter.

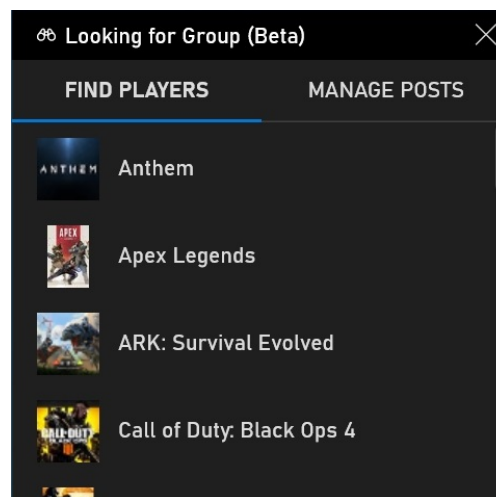


**Captures.** This overlay displays all of the screenshots and video clips you've captured on this PC so that you can view, copy, or share them with others.

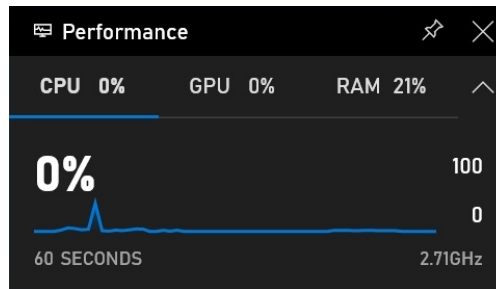




**Looking for Group.** Looking for Group (LFG) is like Craigslist but for Xbox games, a social destination on Xbox Live that helps you find players you donâ€™t already know to play the games you like the most. The overlay lets you scan through a list of available games, read posts from others looking to form a group, and create your own posts. In each case, you can specify options like chat preferences, times, languages, and more.



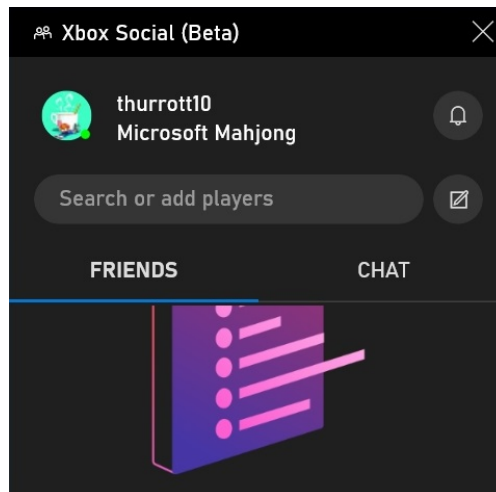
**Performance.** This overlay provides a peek at your PC's CPU, GPU (graphics), and RAM utilization over time. Those who like to tinker with specific in-game settings can use this overlay as a dashboard that displays the real-world impact of those changes and then configure accordingly.



**Spotify.** Those who would like to provide their own soundtrack while playing games can do so via the Spotify music subscription service. This neat little widget provides a front-end to your Spotify music collection—including the service’s hand-picked video game playlists—and you can optionally redirect the Spotify-based music to any Spotify-compatible speakers, separate from the in-game audio.



**Xbox Social.** This overlay lets you see which of your friends are online, start and continue chats with them, and search for players and add them to a party.



Each of these overlays is described further as needed below, but each also shares a few identical features. Each overlay can be moved or closed, and most can be resized as well. And most of the overlays can also be pinned so that they always appear while you’re playing the game.

## Take a screenshot of a game

You can take in-game screenshots two different ways: Using the Xbox Game Bar or using a keyboard shortcut.

If you are playing a game with an Xbox Wireless Controller and a keyboard is not available, the Xbox Game Bar might be your best option: Press the Xbox button on the controller to display the Xbox Game Bar and its overlays and then use the d-pad on the controller to navigate over to the Take screenshot button on the Broadcast & capture overlay. Then, press the (A) button to capture the shot.



If you intend to capture screenshots this way, you should ensure that the Broadcast & capture overlay is always visible when the Xbox Game Bar is displayed.

Capturing a screenshot with your keyboard is much faster: Just type WINKEY + ALT + PRTSCN.

Either way, a “Screenshot saved” banner will appear to let you know that the capture was successful. And either way, the screenshot is saved to the Captures folder in your Videos folder. (And not to the Screenshots folder in your Pictures folder, as is the case with non-game screenshots.)



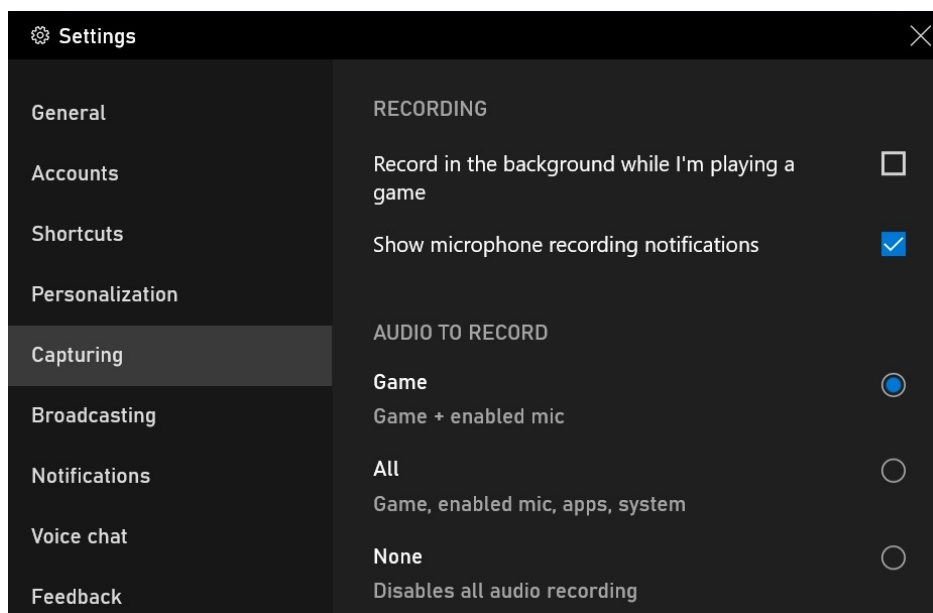
You can also view, copy, and share your screenshots by displaying the Xbox Game Bar’s Captures overlay.

## Record a game clip

The Xbox Game Bar lets you capture game clips, which are videos of your in-game play. You can do so continuously in the background as you play, manually start and stop video recording while playing, or record just the previous 30 seconds if something notable just happened in a game and you wish to preserve the memory.

Before capturing a game clip, navigate to Xbox Game Bar settings > Capturing and review the available options. Here, you can determine whether Xbox Game Bar should continuously record all of your game play—this is wisely disabled by default—and which audio, if any, is recorded along with your game play. You can include the in-game audio, of course, but also a microphone and, if you wish, all other audio from apps and the system.





Be sure to correctly configure the Xbox Game Bar's broadcasting options in Windows Settings as well by navigating to Settings > Gaming > Broadcasting.

To record a clip of something that just happened, display the Xbox Game Bar, navigate to the Broadcast & capture overlay and select the “Record last 30 sec” button. That can be tedious, of course, so you can also type WINKEY + ALT + G to initiate this recording immediately.

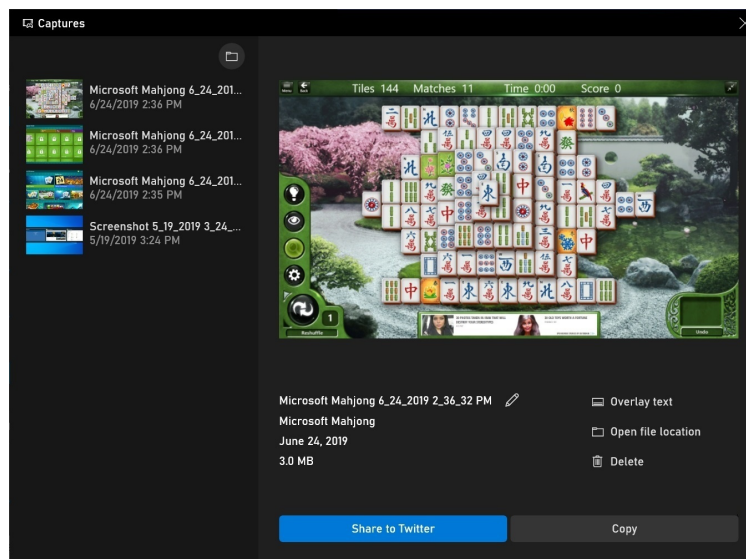
To arbitrarily start recording in-game video, display the Xbox Game Bar, navigate to the Broadcast & capture overlay and select the “Start recording” button (or, type WINKEY + ALT + R) and optionally toggle your microphone audio on by selecting the “Turn mic on while recording” button (or, by typing WINKEY + ALT + M).

When you're done recording, just select the Stop recording button in the Broadcast & capture overlay. (Or, type WINKEY + ALT + R). When you do, a “Game clip recorded” banner will appear to let you know that the capture was successful. As with in-game screenshots, recorded game clips can be found in the Captures folder in your Videos folder.

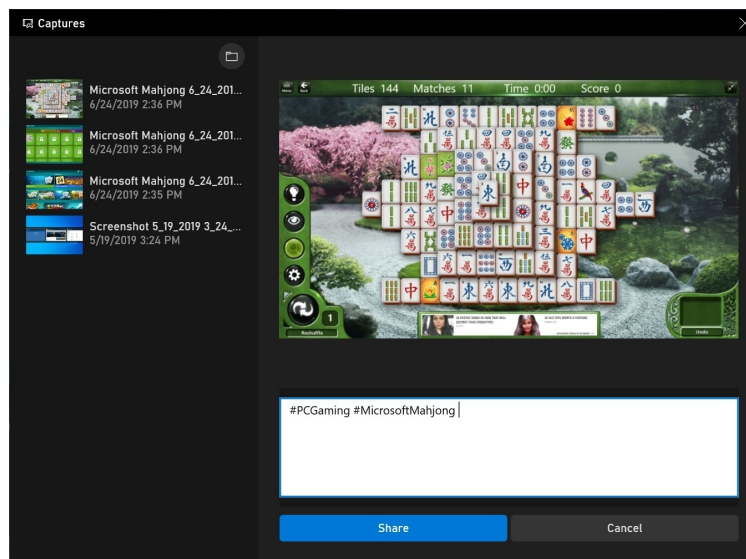
## Share a game screenshot or clip

Because screenshots and game clips are saved as standard media files to your PC's hard drive, you can easily share them using whatever tools and services you typically use. But the Xbox Game Bar also lets you save screenshots and game clips directly to Twitter without having to exit the game or navigate around your file system.

To do so, display the Xbox Game Bar and enable the Captures overlay. (You can do so via the Home button on the Xbox Game Bar or by using the “Show all captures” link in the Broadcast & capture overlay.)



Select the Share to Twitter button. The Share experience appears.



Here, you can add some text to accompany your screenshot or game clip.



Microsoft adds a #PCGaming hash tag to the text and some games, like the one shown here, add their own hashtag as well. You can remove both before sharing.



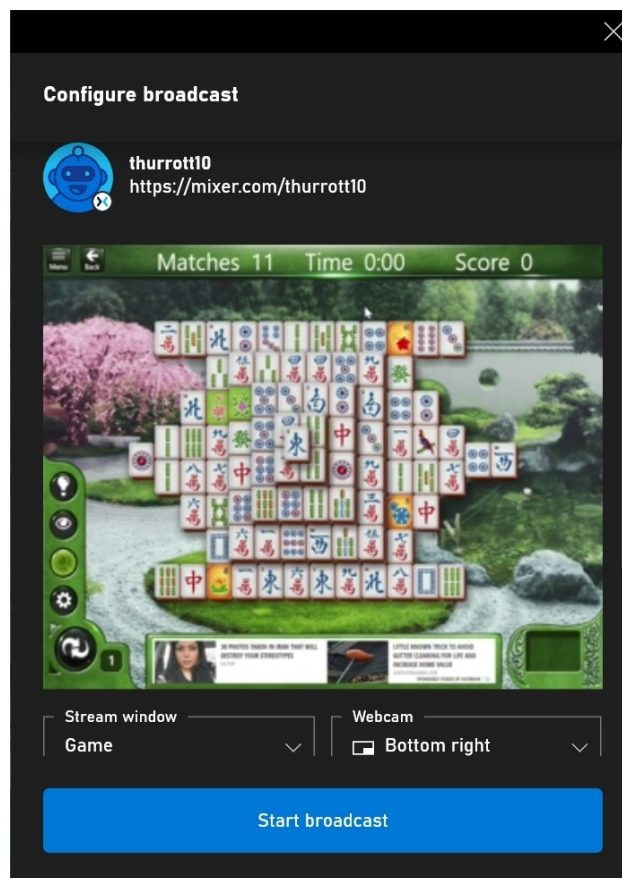
Your game screenshots and clips are also saved to your Xbox account, so you can access and share them from the Xbox Console Companion app, described later, and from [your profile page on Xbox.com](#) on the web.

## Broadcast your live game play to others online with Mixer

Microsoft owns a video game live streaming service called Mixer that lets you broadcast your in-game play online at any time for free. If you have an Xbox Live account, you have a Mixer account, and getting started is easy once you've configured that account on [Mixer.com](https://mixer.com).

To live broadcast a game session, display the Xbox Game Bar, navigate to the Broadcast & capture overlay and select the “Start broadcasting” button. Too much work? You can also type WINKEY + ALT + B.

The Configure Broadcast window appears.



Be sure to scroll down, as there are a number of options you can configure here if you'd like. These include:

**Stream window.** Typically, you will want this set to “Game,” the default choice. But you can also choose “Desktop.”

**Webcam.** Here, you determine where your webcam image—in a picture-in-picture (PiP) window—will appear. The default is “Bottom right.”

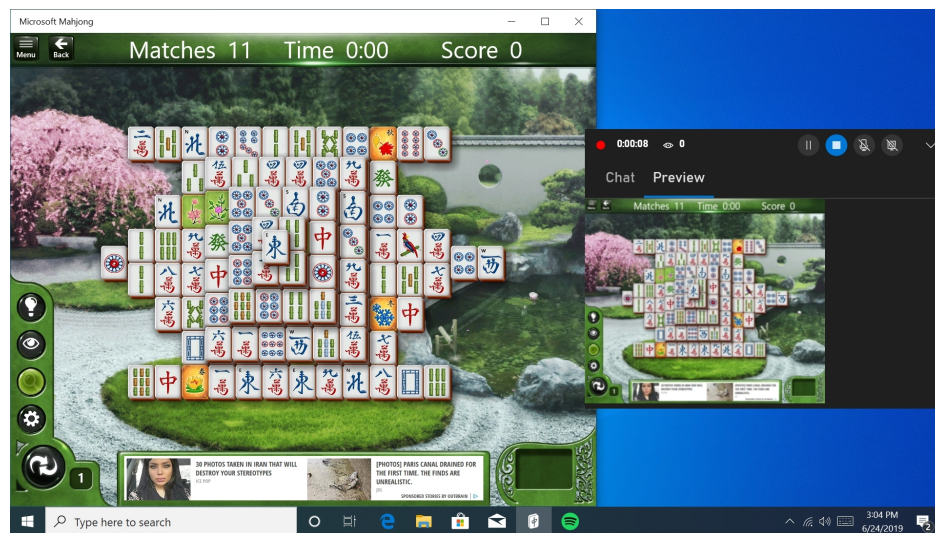
**Stream title.** This is typically set to *your-Mixer-username's* Channel, but you can customize how it will appear on Mixer if you'd like.

**Microphone on for broadcast.** Toggle this on if you would like to broadcast your voice over the default microphone.

**Camera on for broadcast.** Toggle this on if you would like to broadcast your webcam video along with your game play.

Select the Start broadcast button when you're ready.

While you play, your game play is being broadcast, live, on Mixer.com. My live game play, for example, can be seen at [mixer.com/thurrott](https://mixer.com/thurrott).

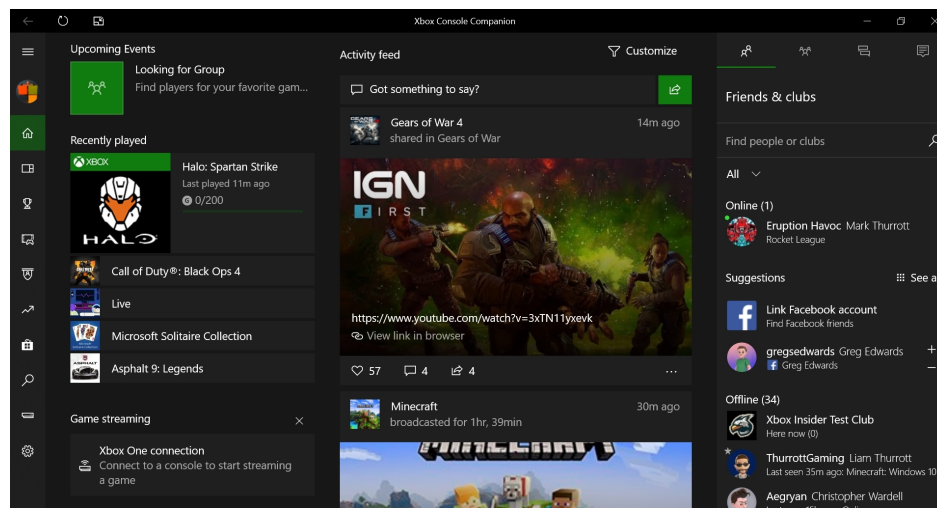


As you can see, a second Broadcast & capture overlay appears while you are broadcasting so that you can interact with any fans watching you and see a preview of what the broadcast looks like on the web.

To stop the live broadcast, display the Xbox Game Bar, navigate to the Broadcast & capture overlay and select the “Stop broadcasting” button. Yes, you can also type WINKEY + ALT + B.

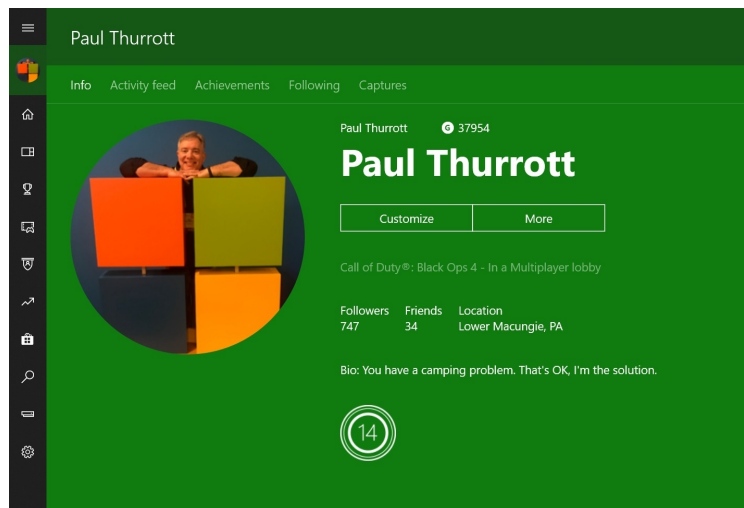
## Use the Xbox Console Companion app to interact with the Xbox Live community

While most of this chapter focuses on activities related to playing games on your PC, Windows also includes an Xbox Console Companion app that is worth examining. Yes, as its name suggests, much of this app's functionality will be of particular interest to those who own an Xbox One video game console. But the app also lets you interact with your Xbox Live account, and your Xbox friends, groups, clubs, parties, and more.



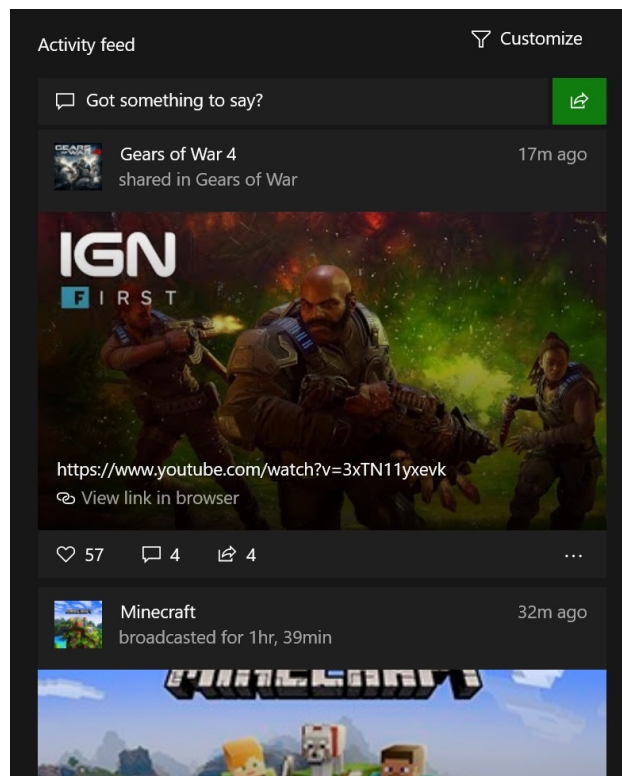
There's a lot of functionality in the app, but here are some key activities:

**View and edit your Xbox Live profile.** Select your user name in the top left corner of the app to display your Xbox Live profile. Here, you can see and edit information about your account, view your personal activity feed, view your achievements, view your friends and others you're following (including games), and access your captures (which are screenshots and game clips).

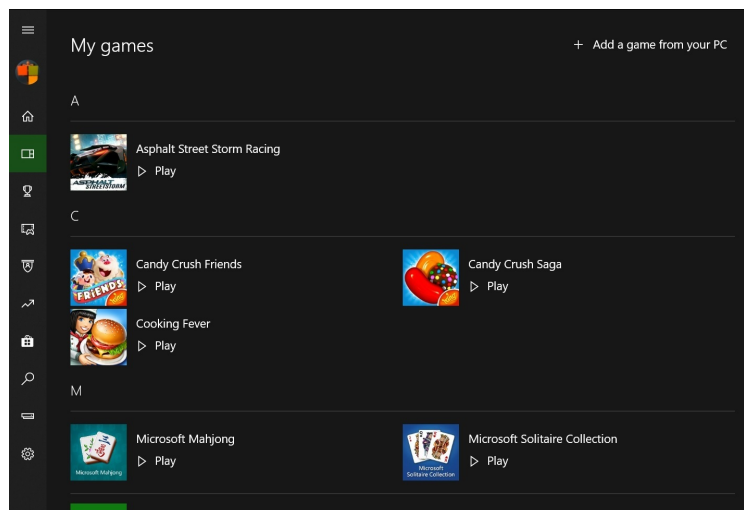


**View your activity feed.** In the Home view, you'll find an Activity feed, similar to that on social media services like Facebook and Twitter, that helps you keep up to date with what your friends are playing and doing on Xbox Live. Your own activities will be posted here, too, and you can "like" and comments on posts.

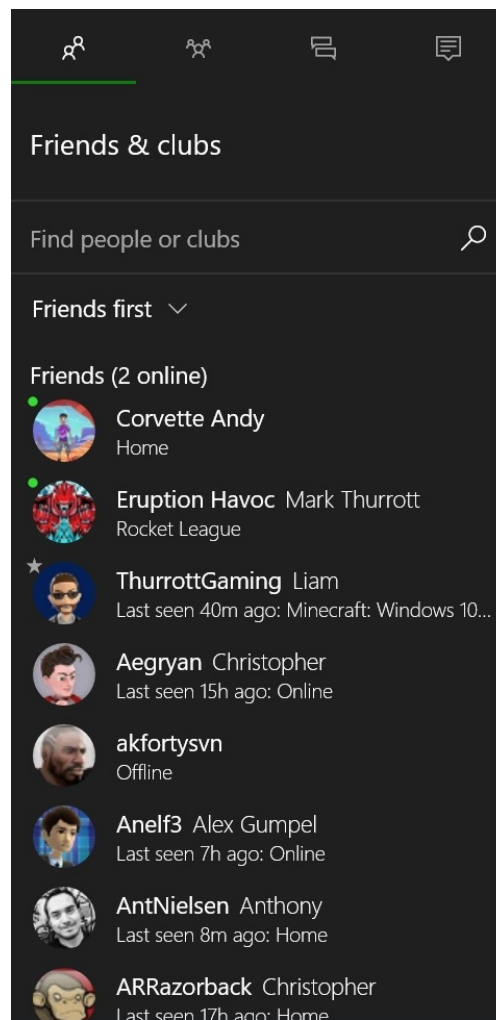




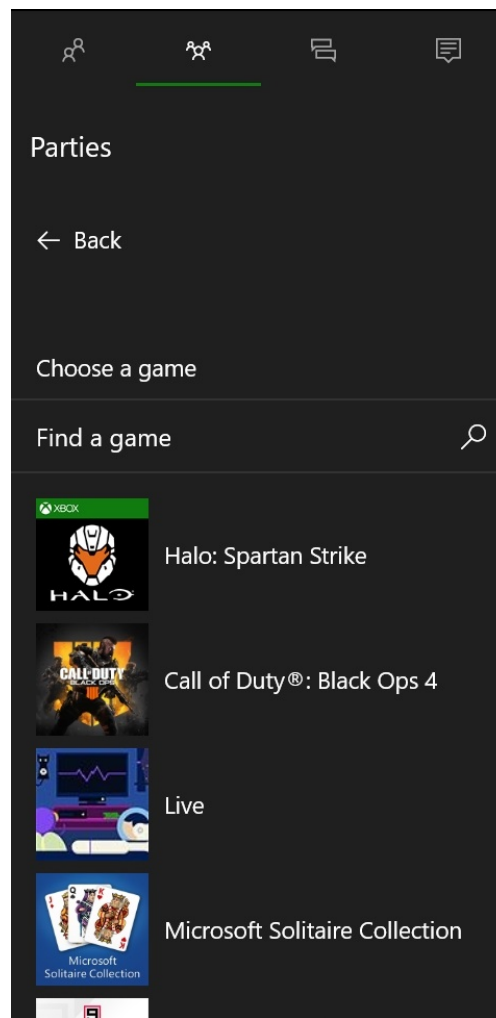
**Interact with games you've played.** The My games view lists all of the Xbox games you've installed on your PC. And the Recently played area in the Home view will show you the games you've played most recently across PC, console, and mobile.



**Interact with friends and clubs.** In the Friends & clubs area of the Home view, you can see your friends and interact with your friends, with those who are currently online listed at the top along with a description of the game or other activity in which they are engaged. You can select a friend to view their profile, invite them to play a game, send a message, and more.

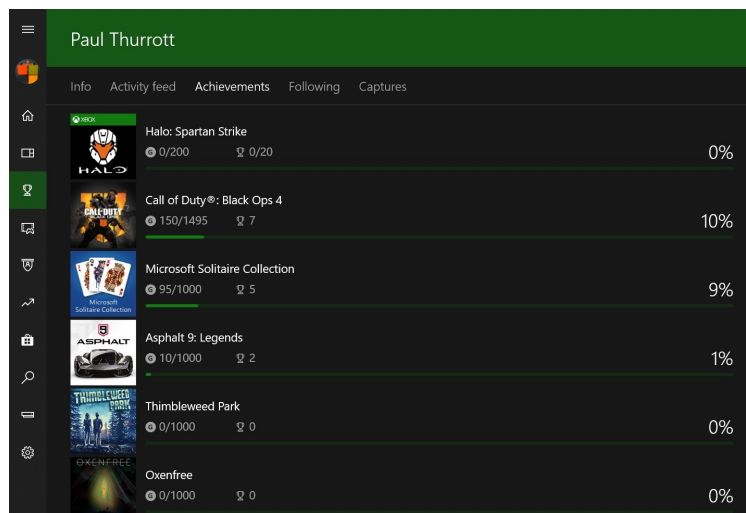


**Interact with parties.** Xbox Live supports two ways for playing games with others online. You can create a party and then invite others you know to join the party. Or you can use the Looking for Group (LFG) feature to try and hook up with people you don't know who wish to play the same game as you. You access both of these methods for team play via the Parties area of the Home view.

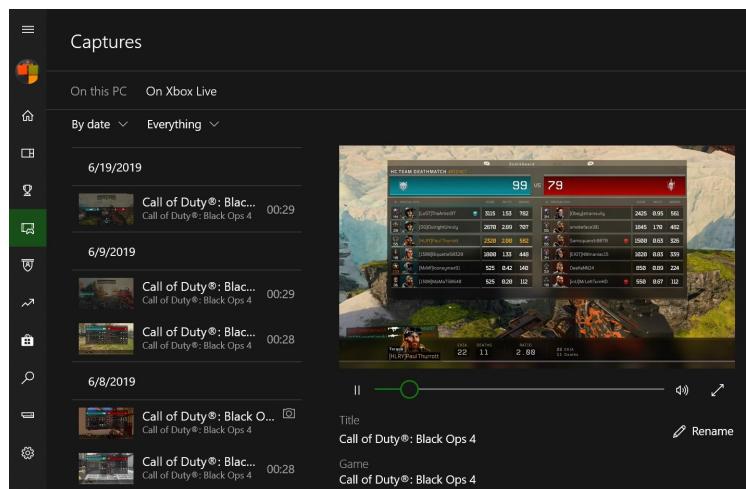


**See your achievements.** If you browse to the Achievements view, you can see the achievements you've earned in each Xbox Live game you've played (across PC, console, and mobile) and see how your friends are faring in their own in-game pursuits of achievements. Better still, when you drill down into a particular game, you can also see your progress towards achievements you've yet to earn.



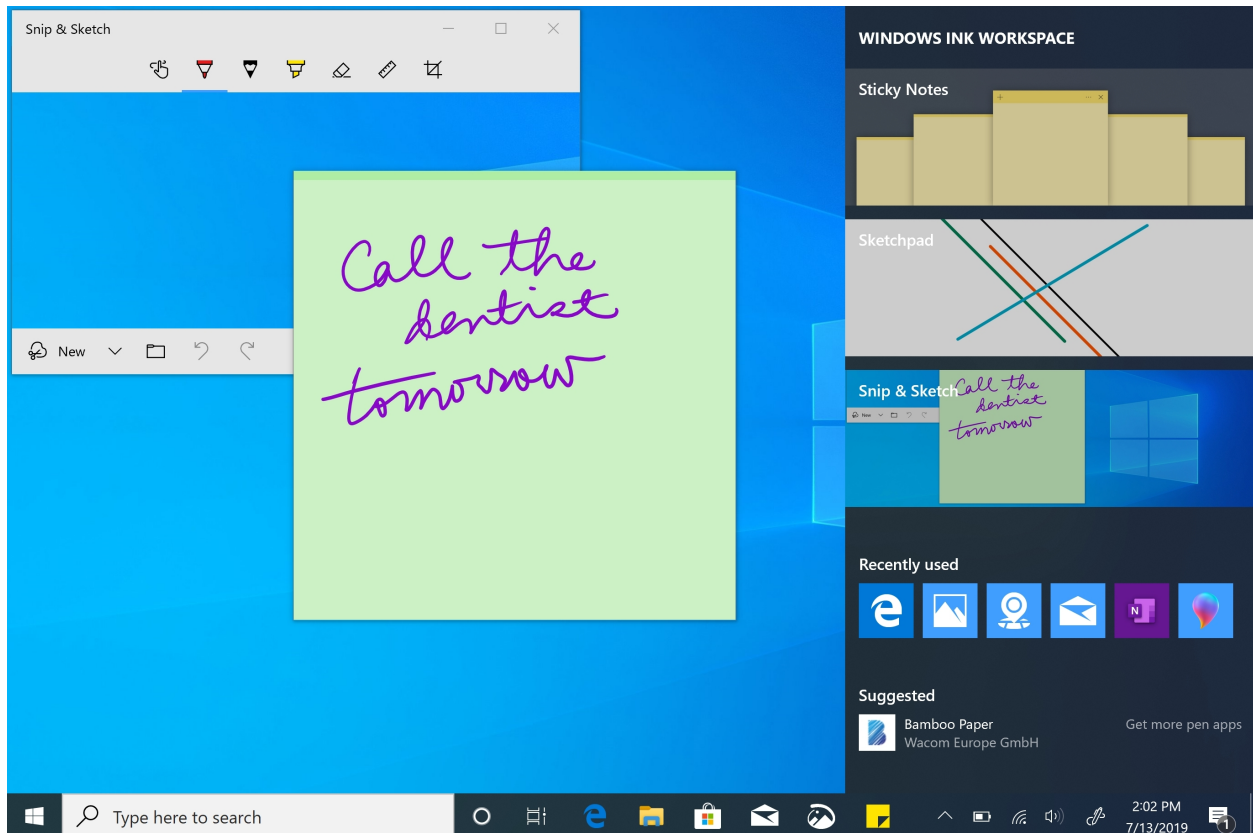


**View and share your screenshots and game clips.** The Captures view lets you view the screenshots and game clips you've saved on the current PC and on other devices (PC, console, and mobile). When viewing a capture from another device, you can download it to your current PC. And all captures can be shared to your activity feed, a club, via an Xbox message, or on Twitter.



**Browse the Microsoft Store for games to buy.** While you're generally better off browsing the Microsoft Store via the dedicated Store app in Windows, the version embedded in the Xbox Console Companion app does have one advantage: You can use it to purchase a game for your Xbox One and then have that game remotely installed on the console.

# Windows Ink



Windows 10 provides deeply integrated Windows Ink capabilities. And while Windows Ink is broadly supported by Store apps, the star of the show is the Windows Ink Workspace, which works as a mini Start menu, of sorts, for your pen computing experiences.



Windows Ink is designed specifically for PCs with digital pens, like the electromagnetic smartpens that Microsoft provides for its Surface PCs. For this reason, we cover Windows Ink and the Windows Ink Workspace from the perspective of a smartpen user. But you will discover that many of these features also work with multi-touch (on compatible PCs) or even with a keyboard and mouse too.

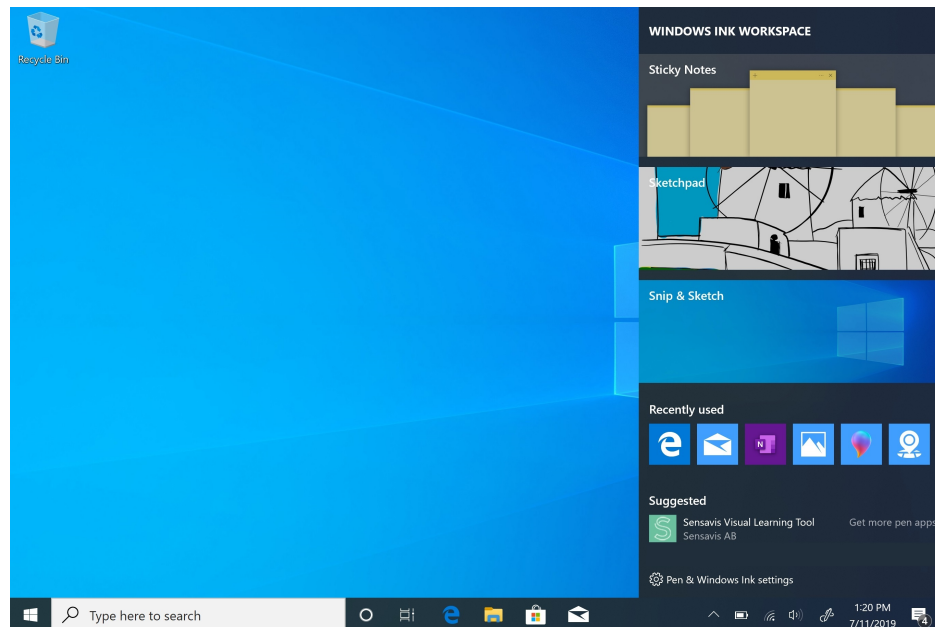
## Get to know Windows Ink Workspace

To display the Windows Ink Workspace, select the Windows Ink Workspace taskbar button, which you'll find in the system tray area to the right in the taskbar.



If you do not see this button, right-click the taskbar and select “Show Windows Ink Workspace button” from the pop-up menu that appears.

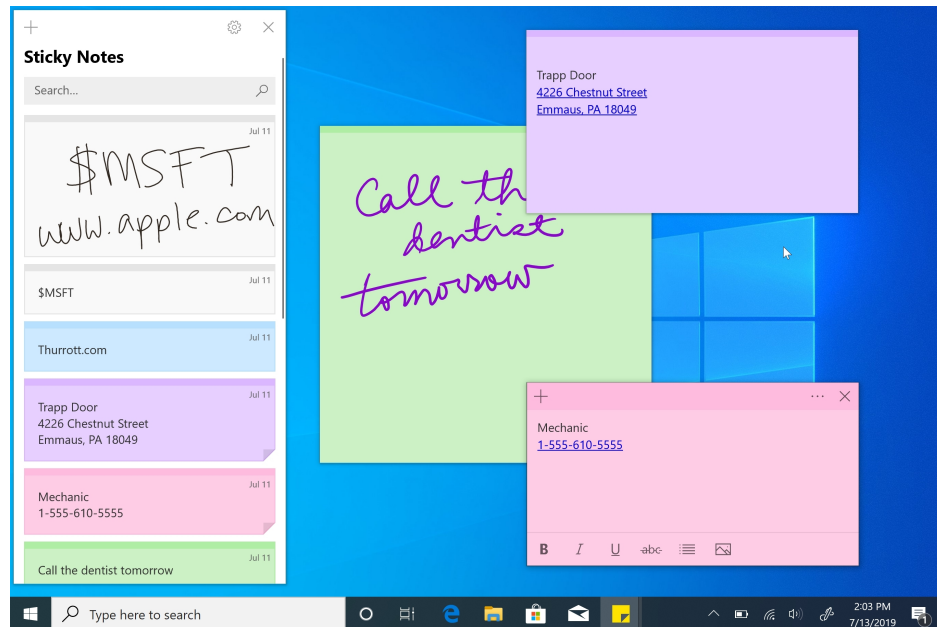
Windows Ink Workspace appears as a pop-up panel on the right side of the screen. It provides a front-end to key Ink-enabled apps that Microsoft includes with Windows, recently-used Ink-enabled apps, a suggested Ink-enabled app, and a link to Pen & Windows Ink settings.



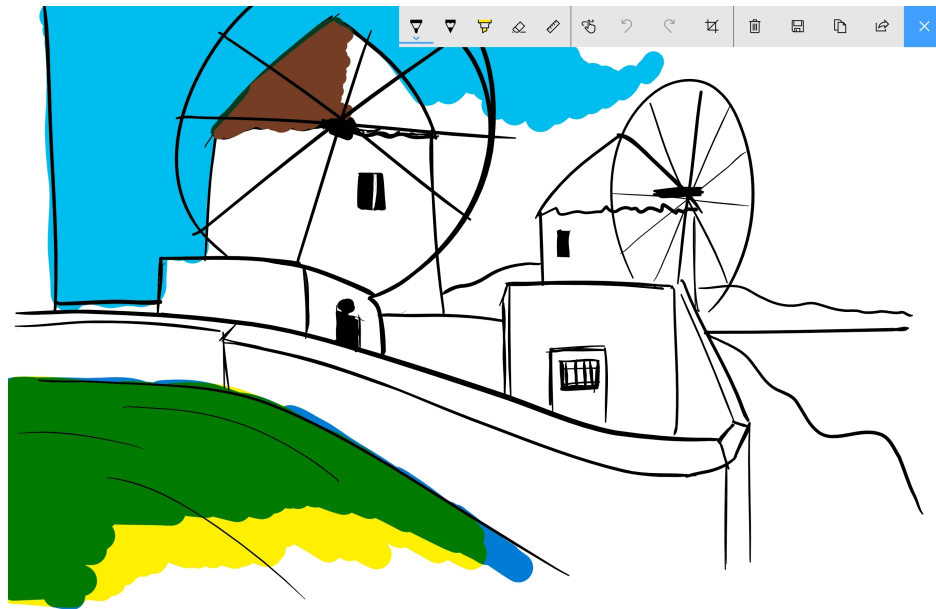
There’s no keyboard shortcut for Windows Ink Workspace. But if you have a compatible active pen for your PC, you can also launch Windows Ink Workspace by double-clicking the pen’s top (eraser) button, if there is one. You can configure how your pen works in Settings > Devices > Pen & Windows Ink.

The three primary apps offered by Windows Ink Workspace are:

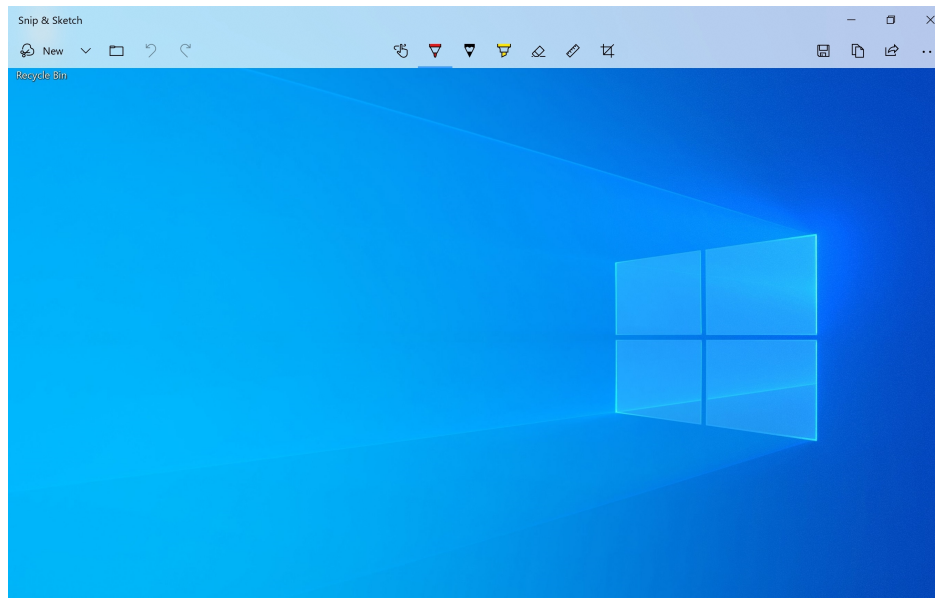
**Sticky Notes.** This playful note-taking and reminder solution is modeled on paper-based sticky notes.



**Sketchpad.** The Sketchpad tool lets you sketch and draw on a digital canvas and create sketches and doodles of your own using tools like pens, brushes, and even an on-screen ruler.



**Snip & Sketch.** This unique tool lets you take a screenshot and then draw doodles, notes, and more on top of it.



Each of these apps is described in more detail below.

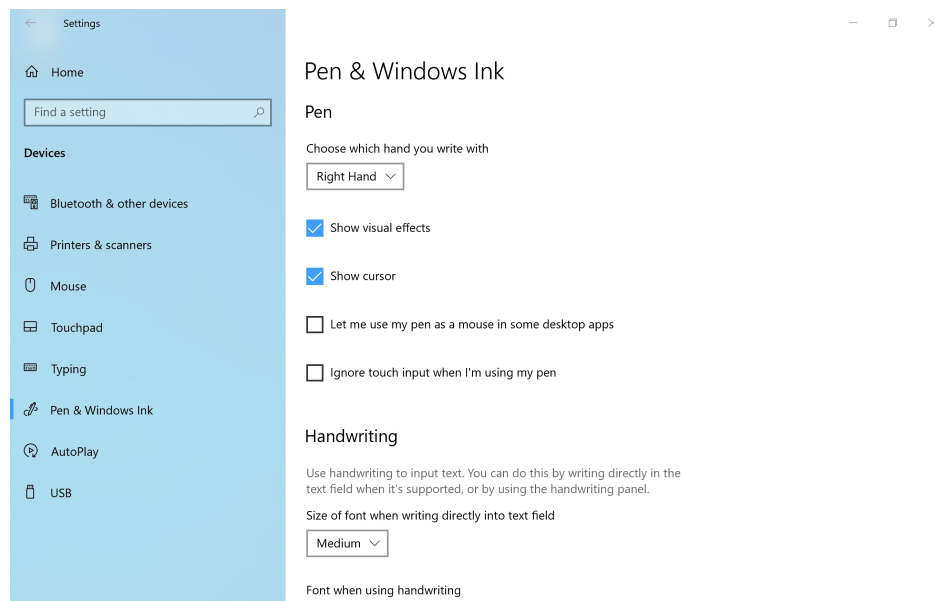


Windows Ink Workspace is not available in Start. But you can launch Ink-enabled apps as you do any other apps, via Start—including Start search and the All Apps list—or from the taskbar, if you pin them there first.

## Configure Windows Ink and your pen

Since Windows Ink is such an unfamiliar topic for most Windows users, you should spend some time examining the available options for both this feature and the pen you will use with your PC.

You can find these options by accessing the Pen & Ink Settings link in Windows Ink Workspace. Or, simply navigate to Settings > Devices > Pen & Windows Ink.



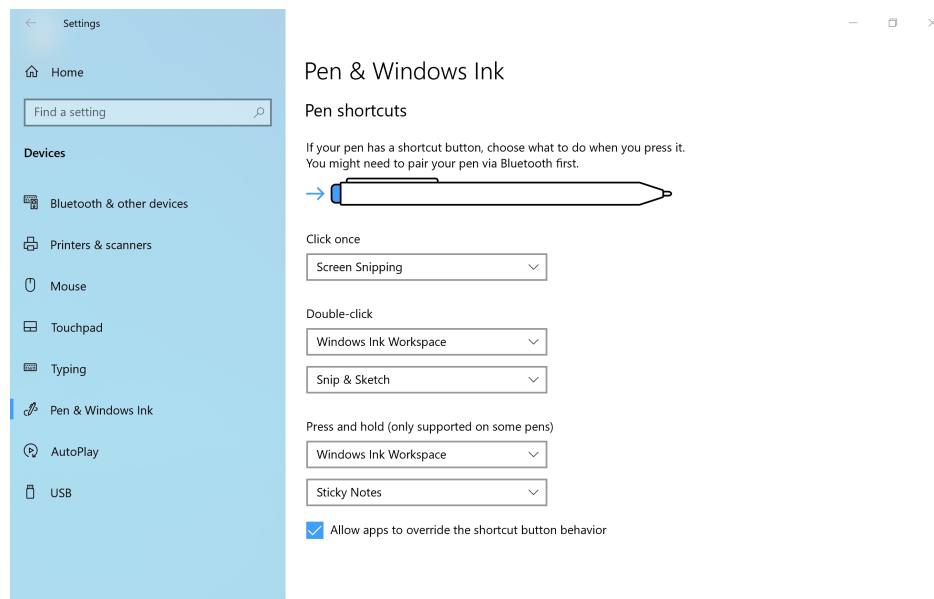
Some key options to consider include:

**Choose which hand you write with.** It's configured to right-handed use by default, so lefties will want to make sure to configure this for left-handed use.

**Size of font when writing directly into text field.** Most Microsoft Store apps are natively compatible with Windows Ink and will work normally if you select a text field in such an app. This option lets you determine the size of the font, with Small, Medium (default), and Large sizes.

**Font used when handwriting.** Likewise, you can determine which font is used when you select a text field in a compatible Microsoft Store app.

**Pen shortcuts.** By default, the Screen Snipping tool appears when you single-click its eraser (shortcut) button. You can change this to behavior and configure what happens when you double-click or (if supported) press and hold this button too.



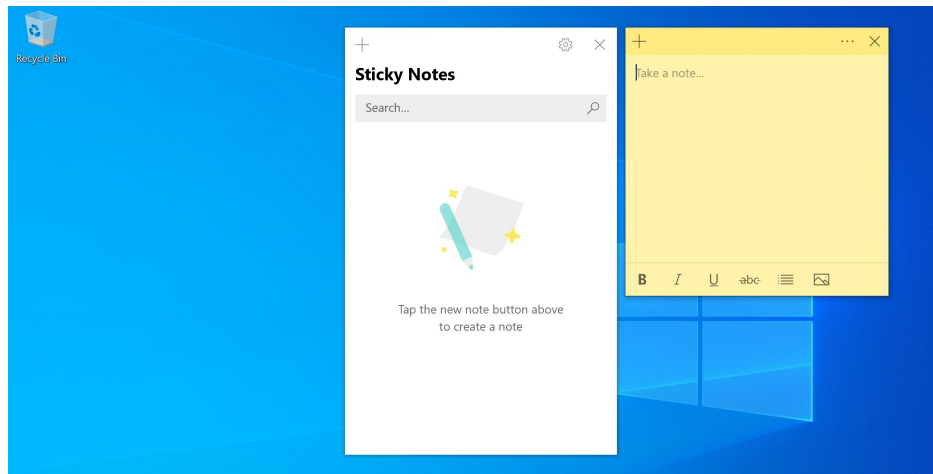
There is also an option under Pen shortcuts that you can enable to open Windows Ink Workspace notes with your active pen's eraser button even when the PC is locked. This is disabled by default for privacy reasons.

## Use Sticky Notes to take notes and set reminders

Sticky Notes works much like it did in previous versions of Windows. But it now sports additional capabilities, including the ability to sync your notes with Sticky Notes on other PCs, with Outlook, and elsewhere.



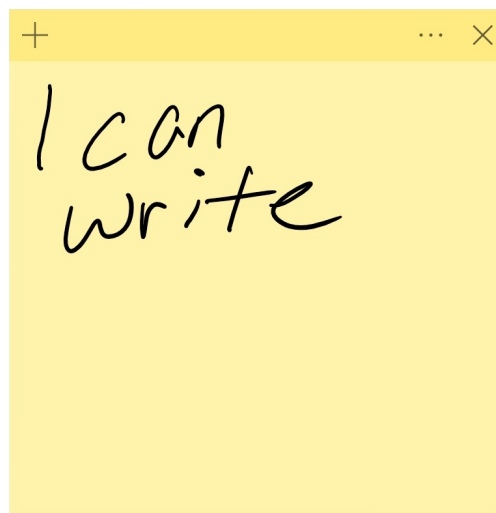
You'll be prompted to enable this sync capability the first time you use Sticky Notes. But you can configure it at any time via the Settings cog in the main Sticky Notes window.



By default, Sticky Notes displays two floating windows: The Notes list window and a single blank sticky note. You can close the Notes list window if you find it distracting. And, as noted below, you can create more Sticky Notes any time you wish.

## Take a note

Note-taking works as expected: Using your keyboard or smartpen, you can simply write on the note normally.

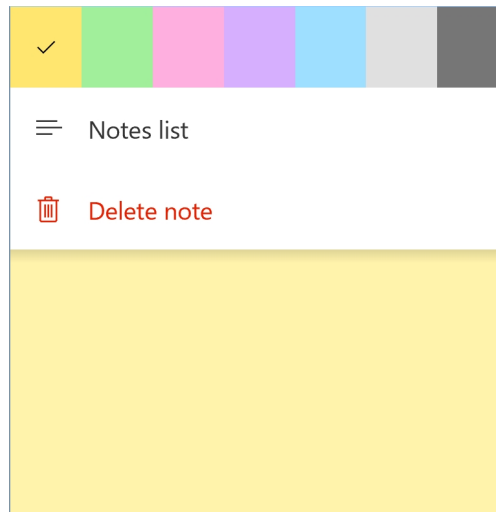


You can also use the supplied formatting tools to use bold, italicized, underlined, or struck-through text, create a bullet list (for a to-do list or similar), or insert a picture.



To change the color of the sticky note, display the Notes list (if you previously closed it), or delete the it, select the Menu (“...”) button.





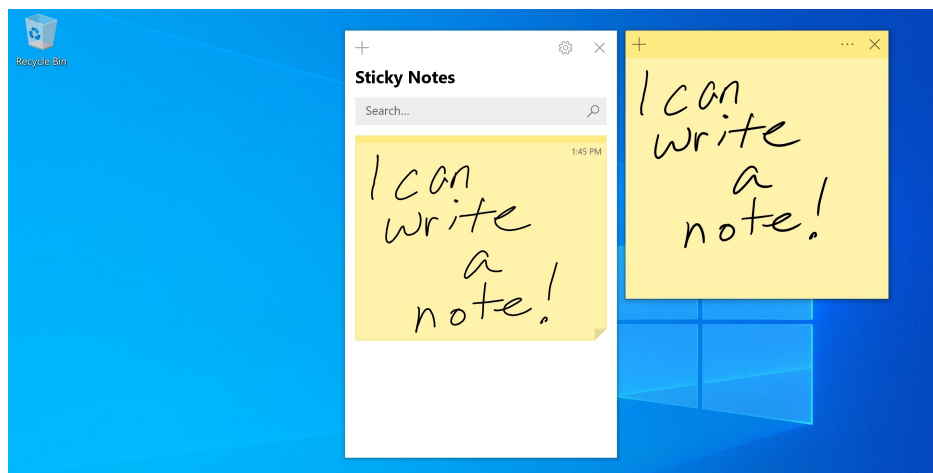
To create a new sticky note, select the New note (“+”) button in any Sticky Notes window.



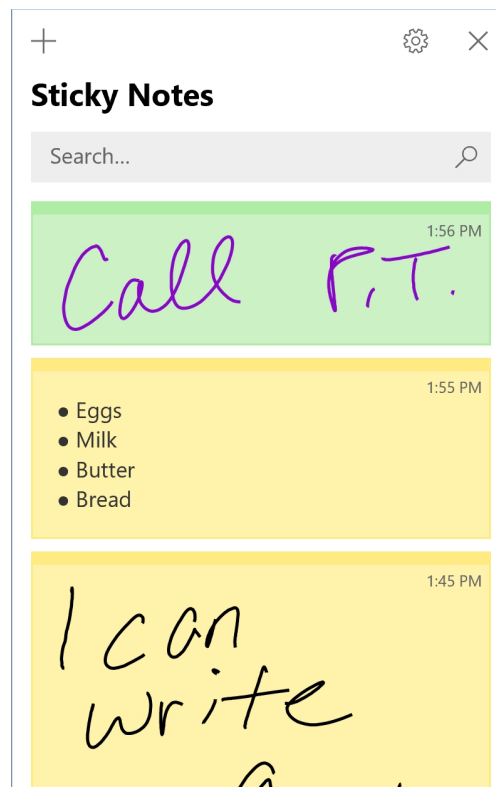
You can also resize a sticky note as you do with other windows, by grabbing a note edge or corner and dragging.

## Manage your notes

You manage your notes with the Notes list window. Here, you will see a thumbnail representing each note you’ve taken.



As you create more sticky notes, this window will collect each in turn so that you can access them later.



To close or delete a sticky note from here, select the Menu (“...”) button in any note thumbnail and then select “Close note” or “Delete note” as required.

## Understand and enable Cortana Insights

Thanks to a Sticky Notes feature called *Cortana Insights*, you can also set reminders, call written phone numbers with Skype, send an email to a written email address, and view a written web address (URL) using your default web browser, all from within a sticky note.

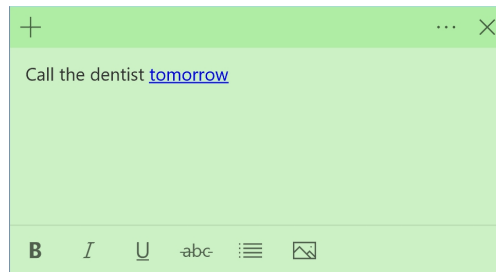
You will need to enable this functionality first, however. To do so, open the Notes list window and select the Settings (gear) icon. Then, change the option Enable insights to “On.”

## Set a reminder

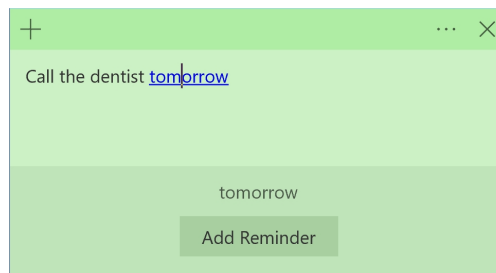
If you’ve enabled Cortana Insights as noted above, you can create Cortana reminders using Sticky Notes, assuming this feature is available in your locale.

To do so, write text on a sticky note that includes a time or date. As you write, you will see that the time or date is highlighted in blue. In Sticky Notes, blue text is actionable using Cortana Insights, and in this case, you will be able to create a reminder.

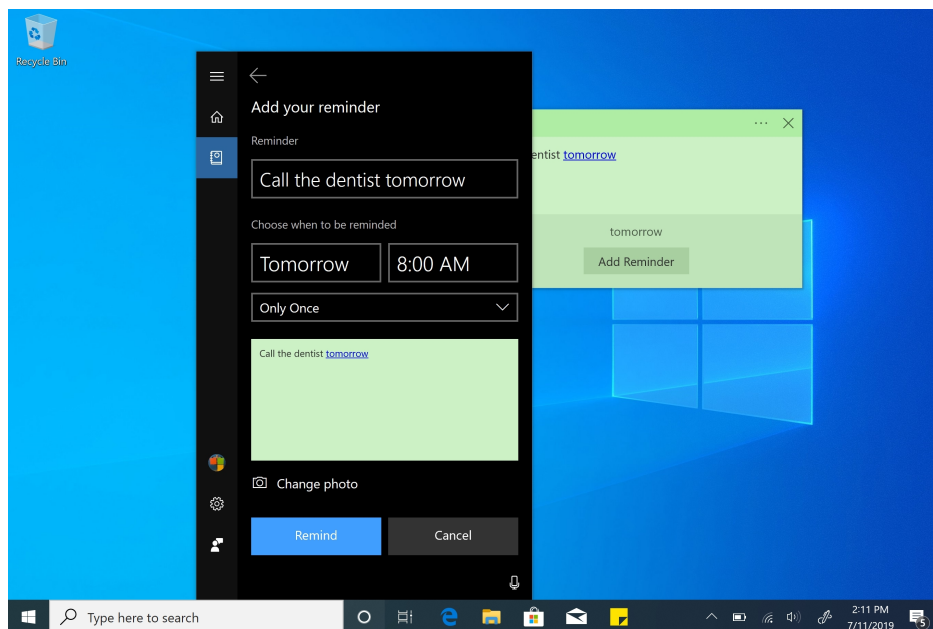
For example, text with the word “tomorrow” can be converted into a Cortana reminder.



When you select the blue text, an “Add Reminder” button appears.



Select that button to launch Cortana and then edit (if necessary) and complete the reminder.



Cortana requires access to your Microsoft account for this feature to work. So you must sign-in to Windows with your Microsoft account or enable this access when prompted.

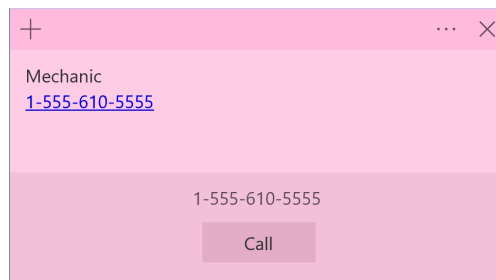
As you might imagine, various date-related words will trigger Cortana Insights and let you create reminders. You can also use terms like “Tuesday,” “at 10 am,” and so on.

## Do more with Cortana Insights

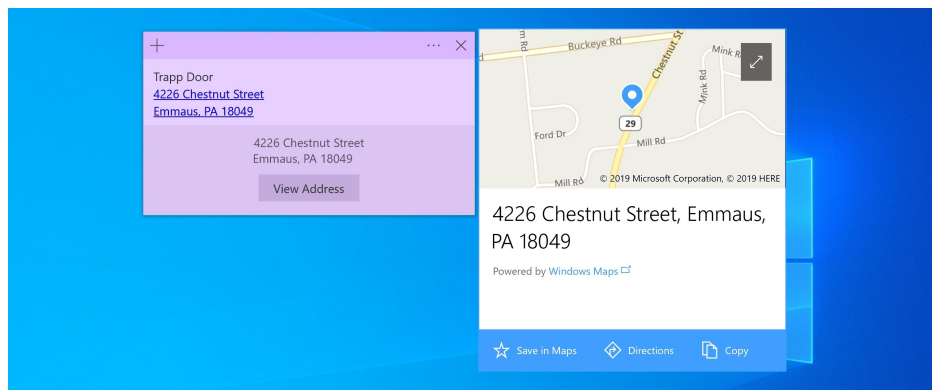
If you've enabled Cortana Insights as noted above, you can also perform certain actions when you write a phone number, address, or web address, and more in a sticky note. As with a reminder, that text will likewise be highlighted in blue, indicating that it is actionable.

A few examples:

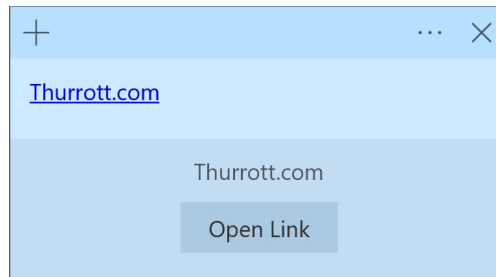
**Phone number.** When you write a string of numbers that is identifiable as a phone number, Sticky Notes will let you select that string of numbers and call it using Skype. (Note that you must have Skype credit associated with your Skype account to use this functionality.)



**Address.** If you add an address to a sticky note, you can select that address and Sticky Notes will display insights about the location, if available, and let you save it or get directions with the Maps app, or copy the address as text.



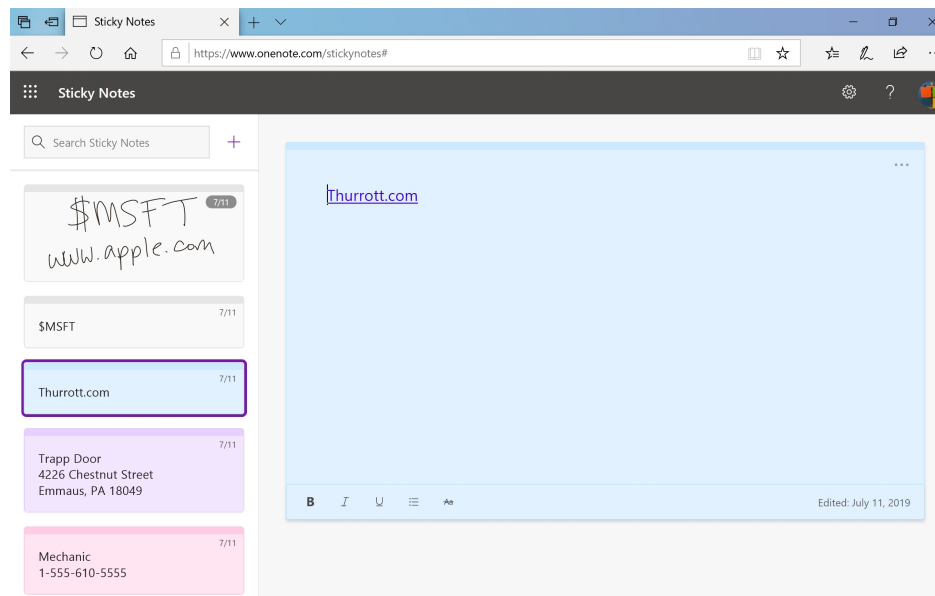
**Web address.** Web addresses (text that ends in .com or similar) will be highlighted in blue. You can select this text to view the web address (URL) in your default web browser.



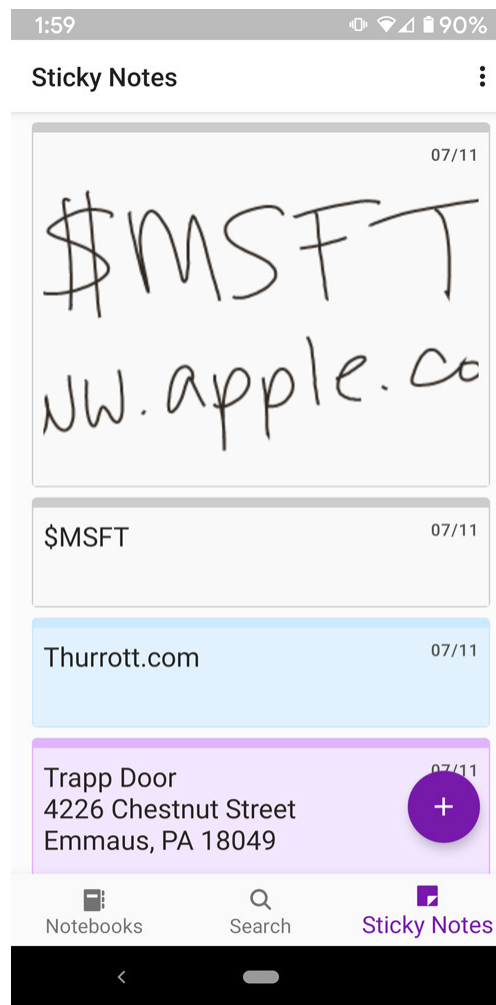
## Access your sticky notes on the web or mobile

Microsoft doesn't make a Sticky Notes app available on other platforms like the Mac, Android, or the iPhone, but you can still access, edit, and manage your sticky notes on the go thanks to integration with OneNote.

To access your sticky notes on the web—say, from a Mac—open a web browser and navigate to [www.onenote.com/stickynotes](https://www.onenote.com/stickynotes)

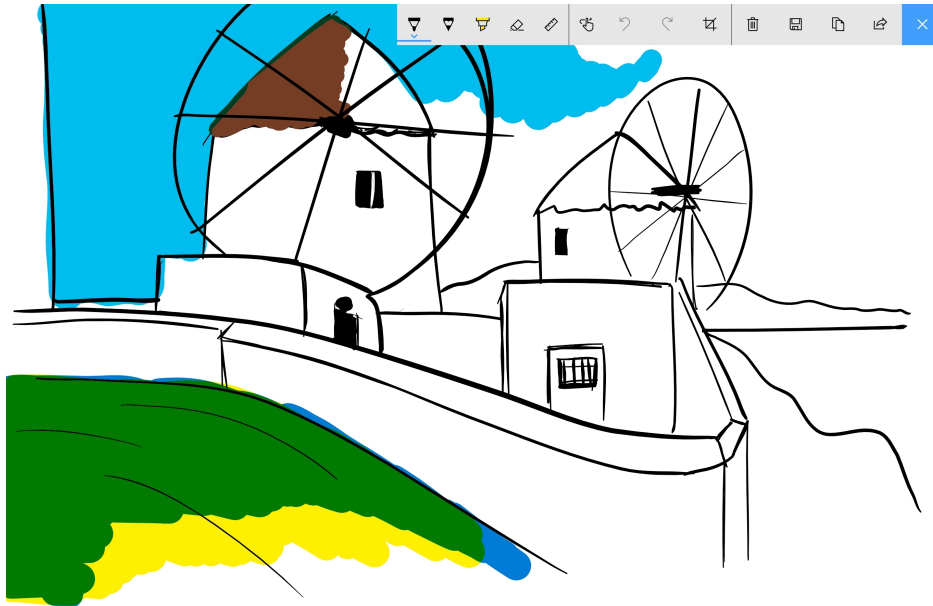


To access your sticky notes from your smartphone, install the OneNote app, sign-in with your Microsoft account, and then select the Sticky Notes tab at the bottom of the app.



## Use Sketchpad to create a digital sketch

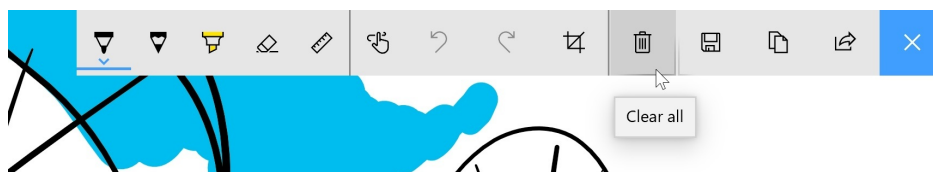
Sketchpad can be used to create a digital sketch, so you can demonstrate something or solve a problem visually. So it's part artistic tool and part productivity solution.



Sketchpad includes various tools, including pens, pencils, highlighters, an eraser, and a ruler. And it works nicely with both pen and multi-touch simultaneously. For example, you can draw with your pen while you manipulate the on-screen ruler with your other hand.

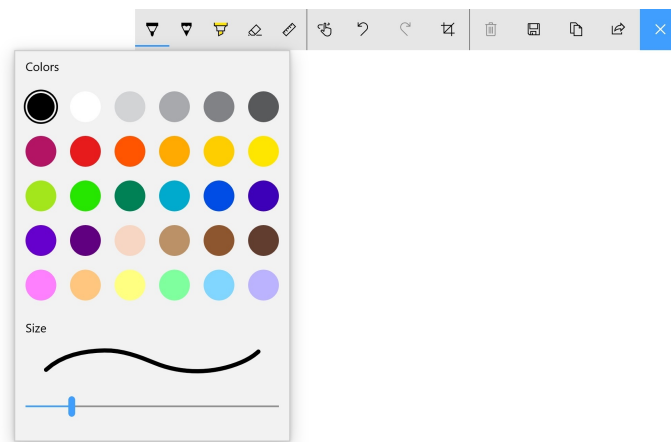
## Create a digital sketch

Sketchpad provides a single blank canvas, meaning you can only work with a single sketch at a time. If there is an existing sketch in the app already, you can use the Clear all tool, which can be found in the Sketchpad toolbar and resembles a trashcan.



You can, of course, use the Save as icon in the toolbar to save a copy of your sketch in the popular PNG graphics format. It works more like an Export function than a real Save, as the PNG file “flattens” the sketch, meaning you can no longer access individual strokes as you can while the sketch is still in the app.

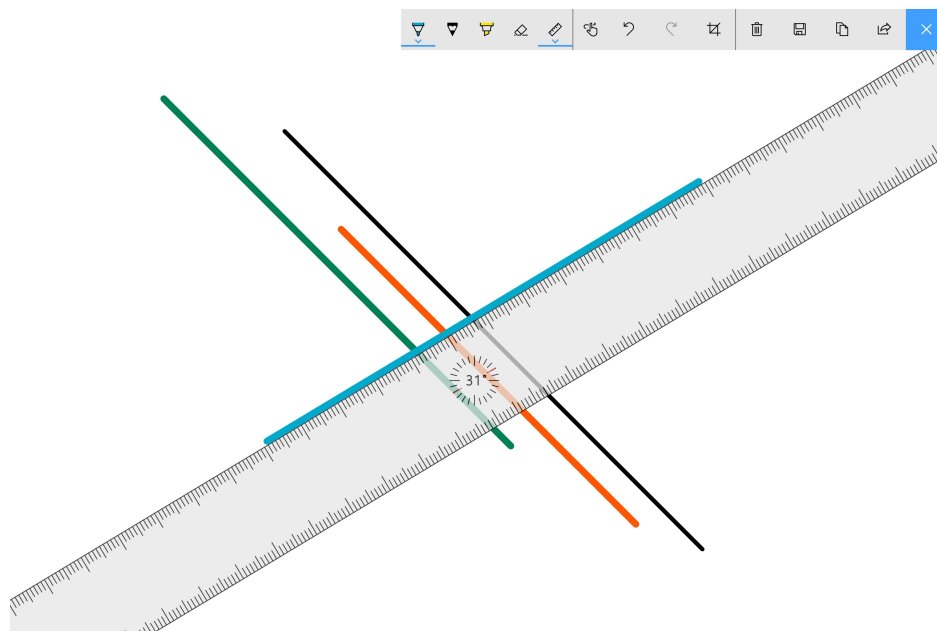
The other tools work as expected. The Pen, Pencil, and Highlighter tools all support multiple color and stroke size choices, for example.



## Use the ruler to draw a straight line

While Sketchpad's Pen, Pencil, Highlighter, and Eraser tools provide no surprises, this app also includes a unique Ruler stencil that helps you draw perfectly straight lines.

To do so, select Ruler from the toolbar, position the on-screen stencil with one or both hands then draw a line (using the Pen, Pencil or Highlighter tools) against one of its edges using your pen.

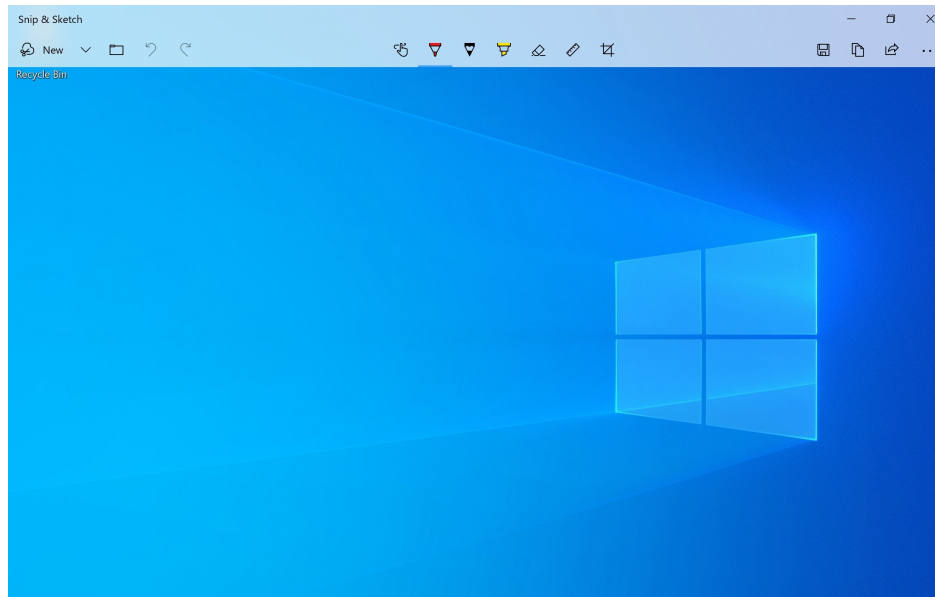


Take note of the compass indicator on the ruler: It displays the angle of the ruler so you can be as accurate as needed.



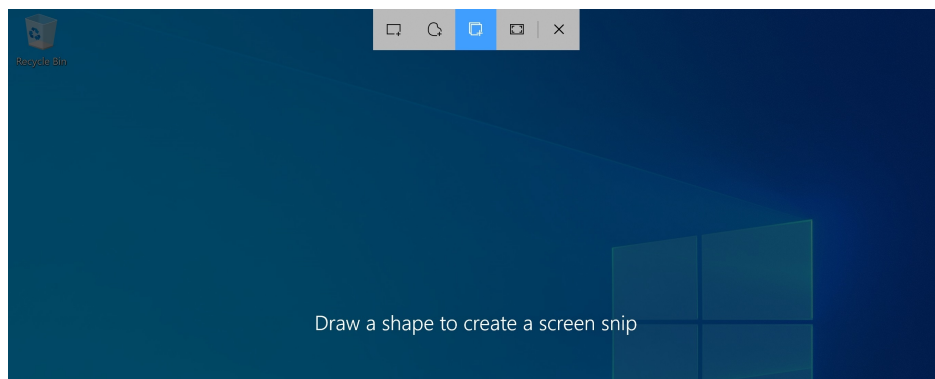
## Use Snip & Sketch to draw on the screen

Snip & Sketch is a unique, pen-enabled way to take a screenshot: After you capture a screenshot, it lets you use the same tools found in Sketchpad, described above, to annotate the image with text, doodles, or straight lines.



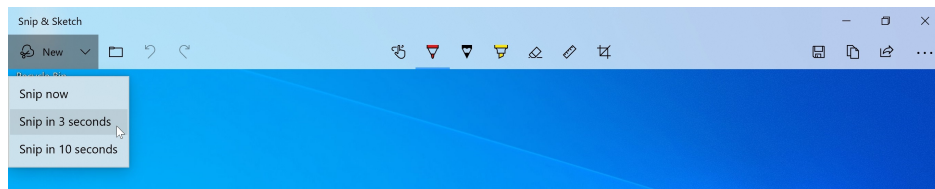
There are a few unique features to consider here.

**New Snip.** You can trigger a new screenshot, which Snip & Sketch calls a “snip,” at any time by selecting the New Snip toolbar button (or by typing CTRL + N). The snipping bar appears, letting you choose between four different screenshot types: A rectangular area, a freeform snip, a window snip, or a fullscreen snip.



You can click the eraser (shortcut) button on your smartpen or type WINKEY + SHIFT + S at any time while using Windows to invoke the Snip & Sketch snipping bar.

**Time-delayed snip.** If you select the carat next to New Snip, you can perform a time-delayed screenshot instead.



**Open File.** You can doodle or draw on any screenshot you've already taken—or on any image, really; Snip & Sketch supports a surprisingly wide range of image types—by using the Open File toolbar button (or by typing CTRL + O).

**Save.** Save (CTRL + S) works much like the similar function in Sketchpad except that it also supports saving to JPEG and GIF formats in addition to PNG.

# Revision History

The *Windows 10 Field Guide* has been continually updated since the initial release in November 2015. Here is a detailed list of every major content change. The latest updates are at the top.

## May 2020

- The Microsoft Edge chapter has been completely rewritten for the new, Chromium-based version of Microsoft Edge. Because this is essentially a new chapter, it may require further additions in the future.

## April 2020

- The Install Windows 10 chapter has been extensively updated for Windows 10 versions 2004/20H1. We removed the content about upgrading an existing PC from Windows 7/8.x and restructured the rest of the content to focus on setting up a new PC first, followed by power user topics like creating Setup media and clean installing Windows 10.
- I heard you missed us, we're back! While we have made small changes here and there since September, we are now updating this book for Windows 10 versions 2004 and 20H1! We will start with high-value targets like the Microsoft Edge chapter, which will exclusively cover the Chromium-based version of Edge, and the Install Windows 10 chapter.

## September 2019

- The Calendar chapter has been updated to address improvements to new event creation from the desktop that were added in Windows 10 version 1909.

## August 2019

- The Microsoft Edge chapter has been fully updated for Windows 10 version 1903. This update also marks an important milestone: Every chapter in the *Windows 10 Field Guide* has been updated for the latest version of Windows 10. Aside from a few small changes, it is likewise fully up-to-date for the *next* version of Windows 10, called Windows 10 version 1909.
- The Devices chapter has been fully updated for Windows 10 version 1903.
- I removed all references to Microsoft's ebook store and functionality from the Microsoft Edge chapter ahead of its update for Windows 10 version 1903.
- The System Recovery chapter has been fully updated for Windows 10 version 1903.
- The Movies & TV chapter has been fully updated for Windows 10 version 1903.

- The Groove Music chapter has been fully updated for Windows 10 version 1903.
- The Files and Storage chapter has been fully updated for Windows 10 version 1903.

### **July 2019**

- The Phone chapter has been fully updated for Windows 10 version 1903 and now covers Android notification sync in the Your Phone app.
- The Install Windows 10 chapter has been fully updated for Windows 10 version 1903.
- The Personalize chapter has been fully updated for Windows 10 version 1903.
- The Microsoft Store and Apps chapter has been fully updated for Windows 10 version 1903.
- The Windows Ink chapter has been fully updated for Windows 10 version 1903.
- Thanks to reader feedback, the Get to Know Windows 10 chapter was updated to fix an error regarding Windows 10 Home's ability to pause updates.
- The Networking chapter has been fully updated for Windows 10 version 1903.
- The Security chapter has been fully updated for Windows 10 version 1903.
- The User Accounts chapter has been renamed to Accounts and fully updated for Windows 10 version 1903. More dramatically, this chapter is now the central location in the book for the so-called email accounts that are used with Mail, Calendar, and People. So those chapters have likewise been updated to remove the duplicate content and point to the Accounts chapter instead.
- The OneNote chapter has been fully updated for Windows 10 version 1903.

### **June 2019**

- The Maps chapter has been fully updated for Windows 10 version 1903.
- The Skype chapter has been completely rewritten for Windows 10 version 1903 and now covers the Skype for Windows 10 app.
- The Xbox and Games chapter has been completely rewritten for Windows 10 version 1903 and now covers the new version of the Xbox Game Bar.

### **May 2019.**

- The Photos chapter has been completely rewritten for Windows 10 version 1903 and now covers the app's new editing and video creation capabilities.
- The Basic Navigation and Usage chapter was renamed to Get to Know Windows 10. It has been fully updated for Windows 10 version 1903.
- The Calendar chapter has been fully updated for Windows 10 version 1903.
- The People chapter has been fully updated for Windows 10 version 1903. Information about My People has been removed because Microsoft is deprecating this feature.

### **April 2019.**

- The Mail chapter has been fully updated for Windows 10 version 1903.

### January 2019.

- We moved the publication history for *Windows 10 Field Guide* to a new section called Revision History, which is now available at the end of the book. It was getting too long to leave it at the front.
- The Phone chapter was fully updated for Windows 10 version 1809, including information about the Your Phone app.
- The Devices chapter was fully updated for Windows 10 version 1809.
- The System Recovery chapter was fully updated for Windows 10 version 1809.

### December 2018.

- The Files and Storage chapter was fully updated for Windows 10 version 1809.
- The Personalize chapter was fully updated for Windows 10 version 1809. This includes both new content additions and the removal of some personalization features that should now be obvious to most Windows 10 users.
- The Basic Navigation and Usage chapter was fully updated for Windows 10 version 1809.

### November 2018

- The Install Windows 10 chapter was updated for Windows 10 version 1809.

### September 2018

- The Microsoft Edge chapter was updated for Windows 10 version 1809.

### August 2018

- The Groove Music chapter was updated for Windows 10 version 1809.
- The Microsoft Store and Apps chapter was updated for Windows 10 version 1809.
- The Movies & TV chapter was updated for Windows 10 version 1809 and now includes content about Movies Anywhere integration.

### July 2018

- The Windows Ink chapter was updated to cover new features in Windows 10 version 1803 and to ensure that all of the shots featured Ink-based handwriting where applicable.

### June 2018

- The Microsoft Edge chapter received a minor content update regarding “Ask Cortana” and web-based pictures.

### May 2018

- The Microsoft Edge chapter was significantly updated to cover new features in Windows 10 version 1803.

### April 2018

- The Camera and MSN Money, News, Sports, and Weather chapters were removed from the book since these apps are not central to the Windows 10 experience.
- The Security chapter was updated for Windows 10 version 1803.
- The User Accounts chapter was updated for Windows 10 version 1803.
- The Networking chapter was updated for Windows 10 version 1803.
- We fixed a number of typos throughout the book, thanks to reader feedback.

### March 2018

- We have decided to update the book to support changes in Windows 10 version 1803, Windows 10 on ARM, and S mode. As with previous updates to the book, these will be provided for free to *Windows 10 Field Guide* readers. Thanks to everyone for their support.
- The Groove Music chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S. This included a few additions, but also the removal of content related to the discontinued Groove Music Pass.
- Corrected some screenshot mistakes in the Install Windows 10 chapter.
- The Basic Navigation and Usage chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S. In addition, the Windows Update section was expanded.
- The previously separate Clean Install Windows 10 and Upgrade to Windows 10 chapters were consolidated into a single new chapter called Install Windows 10. The chapter has been completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.

### February 2018

- The Clean Install Windows 10 chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The File History content was moved from the Backup and Recovery chapter to the Files and Storage chapter.

- The Backup and Recovery chapter was renamed to System Recovery and completely updated with a new structure and to accommodate fundamental changes to these tools in the Fall Creators Update. This chapter was reviewed to ensure it is accurate for Windows 10 S as well.

## **December 2017**

- Phone is a new chapter that covers Windows 10's smartphone integration functionality.

## **November 2017**

- The Devices chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S. A section about smartphones was removed because it is being made into a new chapter.
- The Files and Storage chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The book's cover has been updated for Windows 10 S and the Fall Creators Update.

## **October 2017**

- The Movies & TV chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The Personalize chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The Apps and Store chapter was renamed to Store and Apps and was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.

## **September 2017**

- The Microsoft Edge chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The People chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The Mail and Calendar chapters were both updated for our new sidebar styles. Now, "Note," "Tip," and "Warning" sidebars will be called out in a more obvious and visually-appealing way. Subsequent chapter updates will incorporate this new style as well.
- The Calendar chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.
- The Mail chapter was completely updated to ensure it is accurate for the Windows 10 Fall Creators Update and Windows 10 S.

## June to August 2017

Sorry for the lack of updates: As you may have heard, Paul suddenly and unexpectedly moved to Pennsylvania and this created a months-long interruption. But things are settled now, so we're actively working to update the book again. The good news? We're moving forward to the Windows 10 Fall Creators Update (version 1709) so all future updates will address that version of Windows 10, as well as Windows 10 S. As a thank you for your support and patience, all of the Fall Creators Update content we add will be free for everyone who has purchased *Windows 10 Field Guide*. We hope to update the book quickly going forward.

## May 2017

- The Mail chapter was completely updated to cover new features in the Creators Update.
- The Clean Install Windows 10 chapter was completely updated to cover new features in the Creators Update.

## April 2017

- The Movies & TV chapter was completely updated to cover new features in the Creators Update.
- The Microsoft Edge chapter was completely updated to cover new features in the Creators Update.

## March 2017

We're moving forward to the Windows 10 Creators Update (version 1703) so all future updates will address that version of Windows 10. Creators Update content is free for everyone who has purchased *Windows 10 Field Guide*. Thank you for your support.

- Please enjoy Martin's beautiful new book cover, which was completely redesigned for the Creators Update.
- The Personalize chapter was completely updated for the Creators Update and a new section called "Eliminate the biggest annoyances in Windows 10" has been added.
- The Xbox chapter was extensively updated for the Creators Update with a new section structure and lots of new content covering new features like Xbox Play Anywhere, Game Mode, Beam broadcasting, and more, and improvements to existing features like Game bar and the Xbox app. (This chapter will receive further updates as well.)

## January 2017

- User Accounts chapter is updated for the Anniversary Update. The section "Use Microsoft Family to protect a child account" has been temporarily removed so that it can be significantly updated (and potentially moved).



**November 2016**

- Security chapter is completely updated for the Anniversary Update.

**October 2016**

- Personalize chapter is completely updated for the Anniversary Update.
- A new Windows Ink chapter has been added. This chapter covers the Windows Ink Workspace, Sticky Notes, Sketchpad, and Screen Sketch.

**September 2016**

- Upgrade to Windows 10 chapter is updated for changes in the Anniversary update. Some of those changes involved the removal of content related to the now-expired free Windows 10 upgrade offer.
- Clean Install Windows 10 chapter is updated for changes in the Anniversary update. Some of those changes involved the removal of content related to the now-expired free Windows 10 upgrade offer.
- Removed the Windows 10 At A Glance chapter because it seems superfluous.
- Maps chapter is updated for new Anniversary Update functionality. There is new information throughout the chapter, and many sections have been reorganized.

**August 2016**

- Cortana and Search chapter is renamed to Cortana since it only covers that functionality. This chapter has also been updated with new content and a small reorganization.
- Basic Navigation and Usage chapter is updated to address changes in the Anniversary Update.
- Camera chapter gets a significant update with a small reorganization and some new content.
- Movies & TV chapter gets a significant update with a reorganization and new content.
- People chapter is updated throughout to address changes since the Windows 10 version 1511 release.
- Mail chapter is reorganized and updated throughout with new content about linked inboxes, configuring Conversation View, and more.

**July 2016**

- Calendar chapter is reorganized a bit and updated throughout.
- Minor update to the Groove chapter adds new Explore content and a small reorganization of the music discovery section.
- A number of typos are fixed, thanks to reader feedback.

- Backup and Recovery chapter is updated for new Anniversary Update functionality, primarily the new Refresh Windows tool. The chapter has also been reorganized a bit and updated throughout.
- Apps and Store chapter is updated for new Anniversary Update functionality. There is new information throughout the chapter, and many sections have been reorganized.

## June 2016

- A number of typos are fixed, thanks to reader feedback.
- Networking chapter is partially updated for new Anniversary Update features like Hotspot 2.0 support and paid Wi-Fi networks. The Wi-Fi Sense section was updated to accommodate changes to this feature. And a new section about broadband cellular connections was added. A later update will expand the Hotspot 2.0 and Paid Wi-Fi Services content.
- Groove Music chapter is fully updated for new Anniversary Update features like Your Groove, which replaces the iHeartRadio content from previous versions of the book, and Cortana support.
- Microsoft Edge chapter is fully updated for new Anniversary Update features like extensions, tab pins, and Windows Hello support.

## March 2016

- Added the section “Automatically save screenshots to OneDrive” to the Basic Navigation and Usage chapter.

## February 2016

- Expanded the “Uninstall an app” section in the Apps and Store chapter.
- Windows 10 Field Guide Poster updated with general corrections to graphics, resized square sizes, a new content tile on removable storage, content and graphical updates to the “Configure Your Star Menu” and “Cortana” sections, a modified Coffee Cup graphic header, and high DPI vector tips tidying.

## January 2016

- Fixed image formatting in the MSN Money, News, Sports, and Weather; Networking; OneNote Mobile; People; Personalize; Photos; Skype; Upgrade to Windows 10; User Accounts; Windows 10 At A Glance; and Xbox and Games chapters.
- Updated the section “Use Windows Defender to protect your PC from viruses and malware” and renamed it to “Protect your PC from viruses and malware.”
- Fixed image formatting in the Mail, Movies & TV, and Security chapters.

- Fixed image formatting in Apps and Store, Backup and Recovery, Basic Navigation and Usage, Calendar, Camera, Clean Install Windows 10, Cortana and Search, Devices, Edge, Files and Storage, and Groove Music chapters.
- Various typos and small changes.
- Added “Create iHeartRadio radio stations with Groove” section to Groove Music chapter.
- Fixed some formatting issues in the Basic Navigation chapter.

**November 2015**

- Initial public release



# Quick Reference Sheets

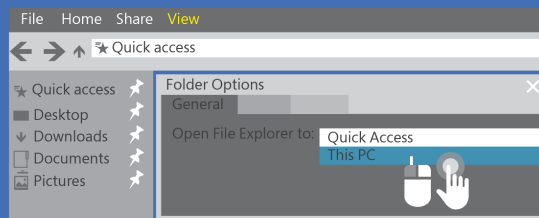
## Windows 10 Tips and Tricks

Quick  
Reference

### Configure File Explorer Quick Access

Quick Access is the default view in File Explorer. It lets you view your recent and frequently accessed files and folders. You can change the default to open to This PC instead.

Open File Explorer and select View then Options. In the Folder Options window, click "Open File Explorer to" drop-down menu at top, select the "This PC" option.



### Scrolling Inactive Windows

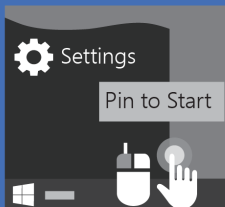
In Windows 10, there is a new option that lets you scroll inactive Windows. It is enabled by default and lets you to scroll through content across open Windows without shifting focus between Windows. For example, scrolling through content in two open snapped instances of your browser.

If desirable, you can disable the ability in your Mouse and touchpad settings.

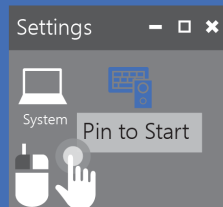


### Pin Settings App Categories to Start menu

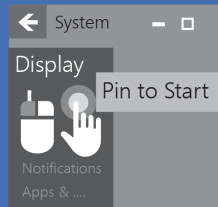
In addition to pinning programs and features to the Start menu, you can also pin the Settings app categories to the Start menu in Windows 10. You can even drill down further and pin individual settings to the Start menu and have all your important and frequently used settings within easy reach.



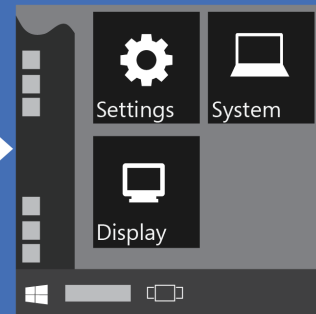
Right-click or tap and hold Settings to pin to the Start menu.



Right-click or tap and hold System to pin to the Start menu.



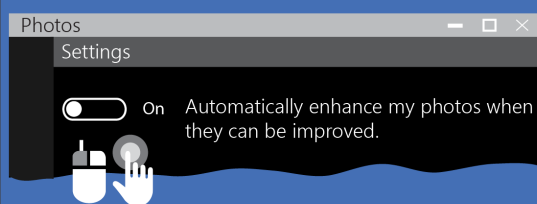
Right-click to pin individual settings to the Start menu.



### Disable Auto-Enhance in the Photos app

Photos is a new application that allows you to manage your photo collections on your PC and in OneDrive.

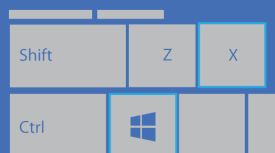
The Photo app will automatically auto-enhance your pictures for the best viewing experience, but you can disable this default feature if not required.



### Windows 10 Quick Access Menu

This shortcut launches the Quick Access menu, which contains access to all the advanced Windows features you'll ever need.

You can access the Mobility Center, Computer Management, elevated Command Prompt, Control Panel, and shut down options.



#### Launch Power User Menu

Windows Key + X

Or

Right-click Windows logo

# Configure your Start menu

Quick  
Reference

With Windows 10, Microsoft has changed Start. Users with traditional form factor PCs will see a Start menu, as they did in Windows 7 and before, while those with tablets and other touch-first devices will see a full-screen Start experience similar to the one in Windows 8.1. You're also free to choose either Start style, regardless of your PC, and make a host of other customization changes to Start.

In Windows 10, you can easily organize new apps and desktop programs in one central location. You can pin applications to your Start menu or taskbar, group your applications, resize your tiles, add or remove tiles, manage your list of files and folders and even change your background color. If you need more space, you can easily resize the Start menu to make it bigger.

Group your favorite applications. Click/tap on the Group Title and enter your customized group name.

Type Group Title Here

Quickly configure your Start menu

- Pin to Start Menu
- Pin to Taskbar
- Uninstall
- Turn live tile off

Resize live tiles

- Large
- Medium
- Small
- Wide

Move tiles

Live tiles update with information

New Mail Message

Tiles animated to display new information

Place anywhere on Start menu

Swipe up in the Start menu (in full screen or Tablet Mode) to see the All Apps list.

Right click/tap and hold

Click/tap to run the app

Group Title

Right click/tap and hold tile. Click/tap the pin icon to remove the tile.

Right click/tap and hold tile. Click/tap to resize tile.

You can pin items to the Start menu. Just drag-n-drop the desired item from the right-side of Start menu.

Scroll up and down through Start menu tiles.

Taskbar

If you want to make changes to the Start menu appearance, you can do so in **Settings**. Click/tap the **Start** menu, then click/tap **Settings**. Then click/tap **Personalization**. The click/tap **Start** to change which apps and folders appear in the Start menu.

To experience the full screen Start screen and see everything in one view, click/tap **Start**. Click/tap on **Settings**. Click/tap **Personalization**. Click/tap **Start** and then click/tap **Use Start full screen**.

# Start Menu and Action Center

Quick  
Reference



Paul Thurrott

Sign out of your PC, switch accounts, or change your account picture.

## Most used

Put the apps that you use every day in easy reach



OneDrive



Notepad



Visual Studio

Pin to Start  
Pin to taskbar  
Run as Administrator  
Open file location  
Don't show in this list

## Recently Used

Jump to applications that you have recently used



Weather



File Explorer

Explore your files and folders

Explore and manage

Desktop OneDrive  
Downloads This PC  
Pictures Network



Settings

Access your computer settings

View and change settings

System Devices Network and Internet Personalization Accounts  
Time and Language Ease of Use Privacy Update & security



Power

Choose your shut down options

Sleep  
Shutdown  
Restart



All apps

View a list of your apps

Click/tap on a letter to view a grid of letters so you jump through the list quickly.

A  
C Alarm  
C Clock  
N Notepad  
Back

## Notifications

Action Center is the new location for notifications. From this handy interface, you can manage your notifications and access quick settings like rotation lock, screen brightness, and more.

Notifications can be expanded to provide more detailed information.

## Windows Store



Posterpedia

The Posterpedia app was updated from the Windows Store. 6:20 PM

## Calendar



Ashlyn's Design Classes

3:00 PM - 4:00 PM

3:20 PM

## Calendar



Call of Duty with Conor

7:00 PM - 11:00 PM

8:20 PM

Collapse ▼



Tablet mode

Switch between desktop and tablet modes



VPN

Configure virtual private network



Quiet Hours

Turn on/off Quiet Hours



All settings

Access Windows 10 system settings



Airplane Mode

Turn on/off Airplane



WiFi

Turn on/off Wi-Fi adapter



Display

Adjust screen brightness



Note

Launch OneNote



Ask me anything.....

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Launch Action Center

6:20 PM  
10/24/2015

# Cortana

Quick  
Reference

Cortana is Microsoft's personal digital assistant. She can give you the latest traffic conditions, remind you to pick up a gift for your friends, and much more. You can configure Cortana to provide complete control over how much she knows about you.

Read the latest information

Tell Cortana about your interests

Tell Cortana to remind you of events

Trending information based on your preferences

62 Light rain

Scroll through latest news articles

Ask me anything

Tell Cortana about your interests

Notebook

About me

Connected accounts

Settings

Add reminders

All Time Place Person

Recommend Windows 10 book.

Next time I talk to Astrid, Jacqueline or Christine

# Virtual desktops

Virtual desktops provide a desktop experience that extends beyond the space limitations of a physical display. They provide a display with infinite space to maneuver and offer a powerful and quick way to organize and access groups of windows.

Previews of the custom desktops (hover and click on desired desktop)

Desktop 1 Desktop 2 Desktop 3 (Add multiple desktops)

Custom applications

New Desktop

Taskbar Use Task view on the taskbar to view, create and select between multiple custom desktops.

Keyboard shortcuts for managing custom desktops:



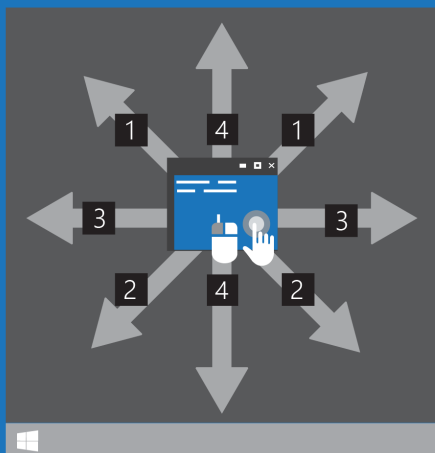
Windows Key + Ctrl + Left/Right Arrow: Switch to previous or next desktop  
 Windows Key + Ctrl + D: Create a new desktop  
 Windows Key + Ctrl + F4: Close the current desktop  
 Windows Key + Tab: Launch Task View



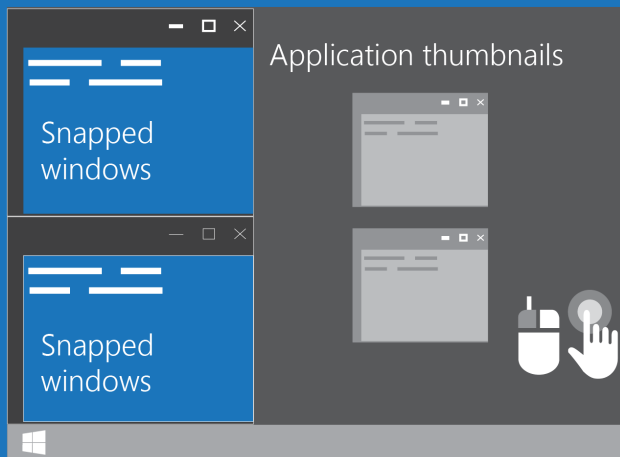
# Enhanced Snap

Quick  
Reference

Snap allows you to arrange your open windows by dragging and dropping a window to different edges of the screen. Snap has been enhanced with Snap Assist and you can now snap windows to all four quadrants of the screen.



- 1 Snap to left or right upper quadrants.
- 2 Snap to the left or right lower quadrants.
- 3 Snap to the left or right sides of the display screen.
- 4 Snap to the top or bottom of the display screen.



The Snap Assist feature displays a list of thumbnails representing open windows in your empty screen space.

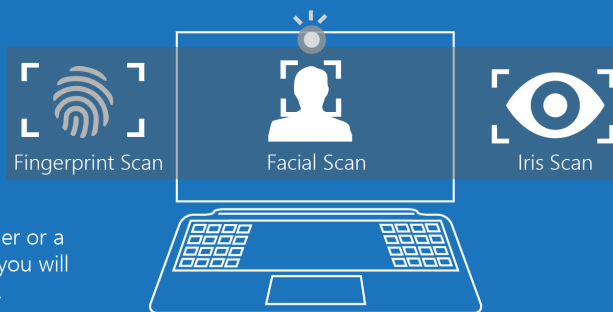
If you click on the desired application thumbnail, it will be snapped to the remaining available space.

# Windows Hello

Windows Hello is a biometric sign-in feature that lets you to unlock your PC in new ways. It can recognize you and allow you access to your computing devices. In addition to passwords, picture passwords, PINs and smartcards, Windows 10 adds new sign-in types. Specifically, a fingerprint press, a facial scan or iris scan. New cameras are required for facial or iris scans. However, you can use Windows Hello with existing Windows fingerprint scanners.

If you want to configure your login options, go to your Start menu and navigate to Settings | Accounts | Sign-in options to set up Windows Hello.

You must have a PC that has a fingerprint reader or a supported camera. With the right equipment, you will be able to sign in with a quick swipe or glance.



# Continuum

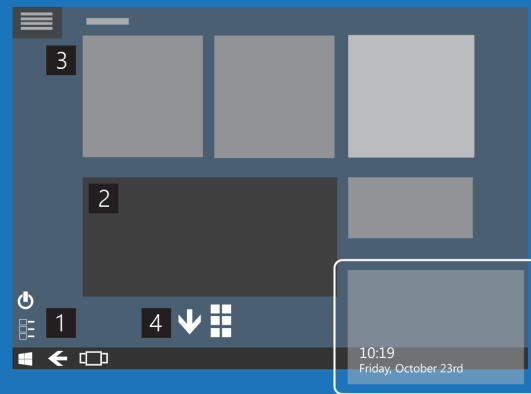
Quick  
Reference

Windows 10 accommodates tablets and full-size PCs with a new feature known as Continuum. For convertible devices, Continuum can detect when you are using your computer as a standard PC with a keyboard or when you are using it as a touch-enabled tablet. In each case, it switches the user interface to accommodate the way you're working, giving you the best environment for your needs.



## Desktop Mode

- 1 Standard Windows desktop
- 2 Applications run in windows
- 3 Start menu that launches classic applications
- 4 Start menu launches modern applications



## Tablet Mode

- 1 Back button
- 2 Applications run in full screen
- 3 Tap to reveal modified Start menu.
- 4 Swipe up on Start to see the All apps list

