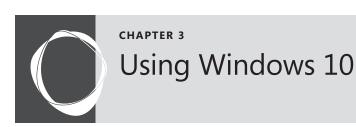


# Windows 10

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An overview of the Windows 10 user experience 62	Managing and arranging windows	89
Navigating Windows 10	Cortana and search	93
Using Windows 10 on a touchscreen device 82		

Regardless of your upgrade path—from Windows 7 or from Windows 8.1—your day-to-day experience changes significantly with Windows 10.

The things you expect Windows to do on your behalf—launching programs, arranging windows on the screen, switching between tasks, finding files, setting notifications, interacting with cloud services, communicating with other people—are basically the same. But the steps you take to accomplish those tasks are different.

The change is more striking if you're moving from a conventional PC or laptop to a touch-screen device. Even if you still have access to a keyboard and mouse or trackpad, the addition of touch fundamentally changes how you interact with Windows and with apps. With a phone or small tablet added to the mix, you have still more options to explore.

In this chapter, we look at the things you tap, click, drag, and drop to make Windows do your bidding. Some, like the taskbar and notification icons, are similar enough to their predecessors that you might miss subtle but significant changes.

Our coverage also includes a section on the unique ways to interact with a tablet running Windows 10. And, of course, we introduce Cortana, the first Windows feature that can literally speak for itself.

A disclaimer, right up front: in this chapter, we are writing about a user experience that is evolving from month to month and that will continue to do so even after the initial release of Windows 10 on July 29, 2015. The screen shots and step-by-step instructions you see here are based on that initial release. It's not only possible, but practically certain, that some of the features we describe here will change in the months after we send this book to the printer as Microsoft delivers on its promise of "Windows as a service."

If you see subtle differences between what's on these pages and what's on your screen, that's the likely reason. We hope our descriptions make it possible to incorporate those changes into your learning.

# An overview of the Windows 10 user experience

Before we dive into detailed descriptions of individual features, please join us for a brief tour of Windows 10. Our goal is to introduce the different parts of Windows, new and old, so that we can be sure you're on the same page . . . or at least looking at the same arrangement of pixels.

Figure 3-1 shows the basic building blocks of Windows 10 and offers a hint of its signature visual style.

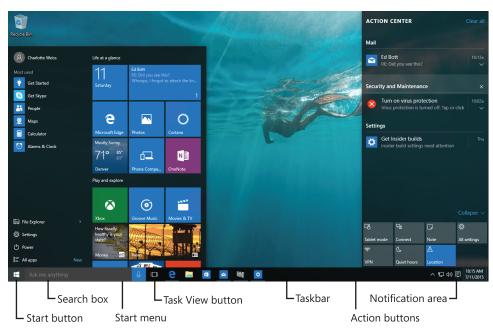


Figure 3-1 The Start menu and Action Center are at the core of the Windows 10 experience, with the familiar desktop front and center for conventional PCs.

When you first start up a conventional PC running Windows 10, you see the familiar Windows 7–style desktop and taskbar. Clicking the Start button—the Windows logo in the lower left corner—opens the Start menu, which is conceptually similar to its predecessor but differs dramatically in the details.

## How the cloud changes your experience

One noteworthy difference between the initial Windows 10 experience and the traditional Windows experience that reached its zenith with Windows 7 is the amount of personalization you see when you sign in on a new PC or device. If you use a Microsoft account you've already used on a different device, the customized settings saved with your account appear automatically on the new device, making it feel familiar right away.

On a clean install or a refresh, you can create a local account, which gives you the standard default layout and themes, as defined by Microsoft. If you sign in to a corporate network, your personalized settings roam according to policies defined by your network administrator. (If your organization allows you to, you can attach a Microsoft account to your domain account, and both your personal and work settings roam together as you switch between devices.)

When you allow your Microsoft account to sync settings between devices, you don't have to go through a tedious process of tweaking the default settings to match those preferences; instead, your visual themes, browser settings, and saved Wi-Fi passwords appear exactly as you expect. If your Microsoft account is connected to OneDrive, your online files, photos, and music collection will be available too. We discuss these features in more detail in Chapter 5, "Networking essentials."

A click on the right side of the taskbar opens Action Center, which is also shown in Figure 3-1. This pane, which uses the full height of your display, contains notifications from apps and services as well as action buttons that allow quick access to settings.

As with previous versions, Windows 10 offers multiple ways to switch between tasks. The Task View button, a new addition to the Windows 10 taskbar, produces the view shown in Figure 3-2, which also illustrates another new feature: virtual desktops. We discuss both features in more detail later in this chapter.

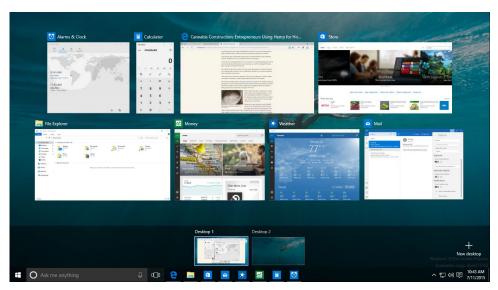


Figure 3-2 Task View allows you to switch quickly between available windows; the new virtual desktop feature allows you to group windows.

➤ For more details on how to set up notifications and configure Action Center, see Chapter 4, "Personalizing Windows 10."

# **Navigating Windows 10**

Touchscreens might represent the future of computing, but the present is still ruled by more-or-less conventional desktop and laptop PCs, each equipped with a keyboard and a mouse or touchpad.

For that type of device, the desktop is where you'll likely spend most of your time, and it's what we concentrate on in this section. Tablet Mode has its own set of rules and gets its own section, immediately after this one.

# Using and customizing the Start menu

The Windows 10 Start menu, like its Windows 7 counterpart, is divided into two vertical segments. On the left side is a comparatively thin column, with the current user's name and picture at the top. Below that identifying iconography is a list of installed programs, with dedicated shortcuts for File Explorer, Settings, and Power below that.

# Inside OUT

#### Change your Start menu picture

The picture that appears at the top of the left side of the Start menu is the one associated with your user account (the one that also appears on the Welcome screen). If you're not happy with that picture, click it, and then click Change Account Settings. That takes you to the Settings page for your account, where you can choose a different picture or snap one with a webcam.

At the very bottom of the list, you can click or tap All Apps to change the contents of the Start menu's left side so that it looks like Figure 3-3.



**Figure 3-3** Clicking All Apps changes the left column in the Start menu to an alphabetical list of available programs.

The scrolling All Apps list is arranged in alphabetical order, in a fashion that's similar to its Windows 7 predecessor. One noteworthy difference: program groups, such as the Windows

Accessories folder, slide downward to open instead of flying out to the right in cascading menus.

On a lightly used system, you can probably find what you're looking for by scrolling through the list of shortcuts on the All Apps menu. Swipe directly on a touchscreen, use two-finger scrolling gestures on a touchpad, or use the scroll wheel with a mouse.

For larger lists of programs, using the search box is the fastest way to find a specific program. For an alternative to scrolling, try this time-saving shortcut: Click or tap any of the letter headings in the list to see the entire alphabet, as shown in Figure 3-4. Then click or tap a letter to jump to the section of the list beginning with that letter.



**Figure 3-4** Clicking or tapping any heading in the alphabetical list takes you to this index, where tapping a letter takes you to the programs whose names begin with that letter.

You can change the size and shape of the Start menu by dragging it up (to a maximum height that is 100 pixels below the top of the display), to the right, or both ways. Resizing the Start menu doesn't change the width of the left column, and making the menu wider can be done only in increments corresponding to the width of two Wide tiles. (More on that shortly.)

## Customizing the contents of the Start menu

If you're accustomed to the extensive array of customization options for items on the Start menu in earlier Windows versions, you'll need to make some adjustments.

You can remove programs from the Most Used section, but you can't pin program shortcuts to the left side of the Start menu.

You can add or remove shortcuts from the group of options just above the All Apps shortcut and the Power button. Besides the default File Explorer and Settings menu items, locations available for this section include your personal folder, the default folders from your user profile (Documents, Downloads, Music, Pictures, and Videos), and the Network folder. You can also add a HomeGroup shortcut. To see the entire list, open Settings, open Personalization, click or tap Start, and then click or tap Choose Which Folders Appear On Start.

## Inside OUT

Which programs are included in the Most Used list?

The list of most used programs—the items that appear below the pinned programs on the left side of the Start menu—is controlled by Windows. In previous Windows versions, this list included only shortcuts to executable files you open, such as .exe files and .msc files. Windows 10 continues this behavior.

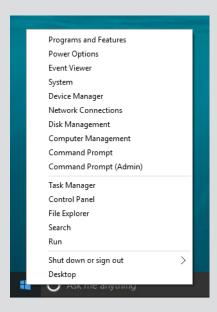
Several types of items are excluded by default, so you won't see things like setup programs, installer and uninstaller packages, Control Panel modules, and MMC consoles. You can find a list of what's excluded in the AddRemoveApps value of the registry key HKLM\Software\Microsoft\Windows\CurrentVersion\Explorer\FileAssociation. We do not recommend trying to edit these values manually.

Pin any Windows app to the Start menu, the taskbar, or both, either by right-clicking the program's entry in the All Apps list or by dragging it from that list and dropping it on the right side of the Start menu.

# Inside OUT

Master the powerful "other" Start menu

Here's some good news for anyone who misses the system shortcuts from earlier iterations of the Start menu. Most of those tools are available as part of a hidden menu that appears when you right-click the Start button or press Windows key+X, as shown here:



Most of the major system management and troubleshooting tools are on that list, including Disk Management, Event Viewer, and the Computer Management console.

Windows traditionalists will appreciate the fact that the Shut Down Or Sign Out menu item is here, along with links to Control Panel and Task Manager. Our personal favorite is the Command Prompt (Admin) shortcut, which eliminates one minor hassle when it's time to get work done the old-fashioned way, by typing commands directly. If you're a PowerShell aficionado, an option on the Navigation tab of the Taskbar And Start Menu Properties dialog box lets you replace the two Command Prompt options with PowerShell equivalents.

## Adding and arranging tiles

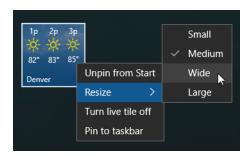
Anything that appears on the All Apps menu can be dragged to the right side of the Start menu and placed as a tile. Tiles, which were found on a separate Start screen in Windows 8.1, behave much the same way in Windows 10, but they are constrained to the Start menu.

Clicking a tile has the same effect as clicking a Start menu program shortcut or a pinned task-bar button. What makes tiles different is the variety of sizes and their ability to display information or notifications from the app, making a tile *live*.

To pin a program as a tile to the right side of the Start menu, drag it into position. As an alternative, right-click its entry in All Apps or the Most Used list on the left side of the Start menu, and then click or tap Pin To Start. The item will take up residence as a medium size tile in the first available empty space on the right side of the menu, from where you can move and resize it as needed.

To remove a program from the right side of the Start menu, right-click it and then click Unpin From Start.

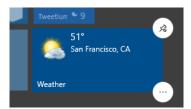
You can adjust the size of any tile by right-clicking the tile to see the menu shown in Figure 3-5.



**Figure 3-5** These options are available for most programs acquired from the Windows Store. Not all apps support this full list of sizes.

Note that not all tiles support the full range of sizes shown in this figure. Windows desktop programs, for example, offer only the Small and Medium options.

On a touchscreen, you can accomplish the same tile customization tasks with a long press on the tile. That produces the two options shown in white circles on the right side of the tile in Figure 3-6. Tapping the top option unpins the tile, while tapping the ellipsis in the bottom right reveals a menu with Resize and Live Tile items.



**Figure 3-6** On a touchscreen, a long press on any tile produces these controls, which lead to options identical to those on the right-click menu.

#### NOTE

Options for a specific app might allow additional customization of the live tile. The Photos app, for example, allows you to choose a specific image for its tile.

Right-clicking the tile for a Windows desktop program produces a menu with an extra set of options: Run As Administrator, for example.

Tiles can be arranged into groups, with or without custom group names. Drag tiles, one at a time, into the position you prefer. If the position you choose is sufficiently far from the edge of an existing group, your tile ends up in a new group of its own. You can move it back to an existing group or add other tiles to the new group.

A slim bar sits above every group of tiles. By default, this bar is blank. Click (as we have in Figure 3-7) to display a text box where you can type a group name of your choosing. (We created a group named Microsoft Office here.) Click the horizontal line to the right of the name box to drag the entire group to a new location.

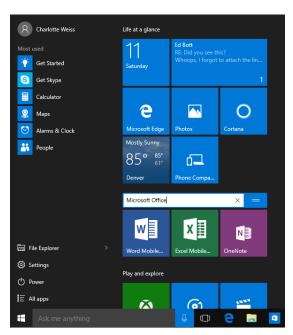


Figure 3-7 Click above any group of tiles to give that group a descriptive label.

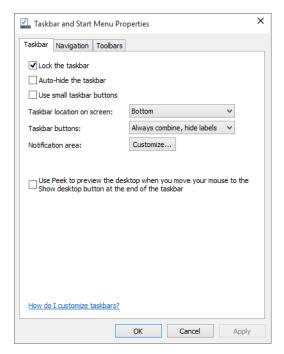
## Using and customizing the taskbar

The taskbar is that strip of real estate along one screen edge (bottom by default) that contains, from left to right, the Start button, the search box, program buttons, notification icons, and a clock. The taskbar made its first appearance in Windows 95. In the years since, it has slowly evolved without changing its basic shape

The Windows 10 taskbar continues to serve the same basic functions as its progenitors—launching programs, switching between programs, and providing notifications—with only subtle changes in functionality.

Every running program with a user interface has a corresponding taskbar button. When you close that program, the button vanishes as well, unless it's been pinned to the taskbar. A faint line appears underneath the icon for a running program, and the program with the current focus has a subtle but noticeable transparent shadow to identify it.

The Windows 10 taskbar offers a limited selection of customization options, most of which are available through the Taskbar And Start Menu Properties dialog box (see Figure 3-8). Open it by right-clicking an unoccupied area of the taskbar (if the taskbar is full, right-click the Task View button) and then clicking Properties.



**Figure 3-8** For most people, the default options here will be acceptable, especially Lock The Taskbar, which prevents you from accidentally dragging the taskbar to the side of the monitor.

Two items on the Taskbar tab of the Taskbar And Start Menu Properties dialog box control the size and appearance of taskbar buttons:

- Use Small Taskbar Buttons. Select this option if you want to reduce the height of taskbar buttons, making them similar in size to buttons in earlier Windows versions. In our experience, buttons of this size are too small for practical use. If you have the eyesight of a hawk, you might beg to differ.
- Taskbar Buttons. The default setting for Taskbar Buttons is Always Combine, Hide
  Labels. This setting instructs Windows to always group multiple windows from a single
  application (such as Microsoft Word documents) into a single taskbar button. The Hide
  Labels setting for this option is left over from an old Windows version; Windows 10 does
  not display labels (window titles) for taskbar buttons.
  - With either of the other settings (Combine When Taskbar Is Full or Never Combine), Windows gives each window its own separate taskbar button. It groups windows only when the taskbar becomes too crowded or continues to shrink the size of taskbar buttons as you open more windows. We recommend the default setting here.
- ➤ If you have more than one display attached to a Windows 10 PC, some extra customization options are available for the taskbar. See "Configuring the taskbar with multiple displays" in Chapter 4 for details.

#### Pinning programs to the taskbar

Pinning a taskbar button makes it easy to find and run favorite programs without the need to open the Start menu or use the search box to find the program's shortcut. To pin a program to the taskbar, simply drag its icon or a shortcut (from the Start menu, from the desktop, or from any other folder) to the taskbar. Alternatively, right-click a program icon wherever you find it and then click Pin To Taskbar.

To remove a pinned program from the taskbar, right-click the pinned icon and then click Unpin This Program From Taskbar. This command also appears on other shortcuts to the program, including those on the desktop and on the Start menu.

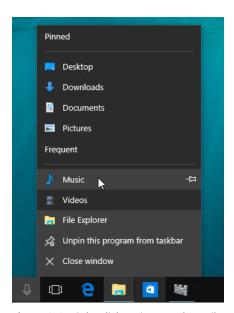
You can use task buttons to launch a program that's not currently running or to switch from one running program to another. You can also click a task button to minimize an open window or to restore a minimized window. If those features sound too obvious, here's a trick you might not know: you can open a new instance of a program that's already running—a new Microsoft Word document, for example, or a fresh File Explorer window—by right-clicking the taskbar button and then clicking the program name.

#### Using Jump Lists for quick access to documents and folders

A Jump List is the official name of the menu that appears when you right-click a taskbar button. Each taskbar Jump List includes commands to open the program, to pin the program to the taskbar (or unpin it), and to close all open windows represented by the button.

In addition, for programs that have been developed to take advantage of this feature, Jump Lists can include shortcuts to common tasks that can be performed with that program, such as Open New Tab on a browser window. For Microsoft Office programs, Adobe Acrobat, and other, similarly document-centric programs, Jump Lists also typically include links to recently opened files.

Figure 3-9 shows the default Jump List for File Explorer.



**Figure 3-9** Right-click an icon, such as File Explorer, to see a Jump List showing recently opened files and folders with the option to pin items for quick access.

Individual files and folders can't be pinned directly to the taskbar, but you can add them to Jump Lists by using the following techniques.

To pin a document to the taskbar, drag its icon or a shortcut to any empty space on the
taskbar. If the taskbar already has a button for the program associated with the document, Windows adds the document to the Pinned section of the program's Jump List. If
the document's program is not on the taskbar, Windows pins the program to the taskbar
and adds the document to the program's Jump List.

- To pin a folder to the taskbar, drag its icon or a shortcut to the taskbar. Windows adds the folder to the Pinned section of the Jump List for File Explorer.
- To open a pinned document or folder, right-click the taskbar button and then click the name of the document or folder.
- To remove a pinned document or folder from the Jump List, right-click the taskbar button and point to the name of the document or folder to be removed. Click the pushpin icon that appears.

#### Changing the order of taskbar buttons

To change the order of buttons on the taskbar, simply drag them into position. Pinned program icons retain their order between sessions, allowing you to quickly find your most-used programs in their familiar (to you) location.

# Inside OUT

Use shortcut keys for taskbar buttons

The first 10 taskbar buttons are accessible by keyboard as well as by mouse. Press Windows key+1 for the first, Windows key+2 for the second, and so on (using 0 for the tenth). Using one of these shortcuts is equivalent to clicking the corresponding taskbar button: if the button's program isn't running, it starts; if it has a single open window, you switch to that window; if it has multiple open windows, Windows displays previews of all windows and a "peek" view of the first window.

Note that when you change the order of a taskbar button, you also change the Windows key+number combination that starts that particular program.

Another useful shortcut key is Windows key+T, which brings focus to the first item on the taskbar. At that point, you can repeatedly press Windows key+T, Shift+Windows key+T, or the arrow keys to select other taskbar buttons. When a taskbar button is selected, you can press Spacebar to "click" the button, press the Menu key to display its Jump List, or press Shift+F10 to display its shortcut menu.

## Changing the taskbar's size and appearance

The default height of the taskbar is enough to display one button. (If you switch to small buttons, the taskbar automatically shrinks its height to fit.) You can enlarge it—and given the typical size and resolution of computer displays these days, enlarging it is often a great idea. Before you can change the taskbar's dimensions, you need to unlock it. Right-click an unoccupied area of the taskbar; if a check mark appears next to the Lock The Taskbar

command, click the command to clear the check mark. Then position the mouse along the border of the taskbar farthest from the edge of the screen. When the mouse pointer becomes a two-headed arrow, drag toward the center of the screen to expand the taskbar. Drag the same border in the opposite direction to restore the original size.

#### Getting the taskbar out of your way

By default, the taskbar remains visible at all times. If that's inconvenient for any reason, you can tell it to get out of the way. In the Taskbar And Start Menu Properties dialog box, shown earlier in Figure 3-8, select Auto-Hide The Taskbar. With this option selected, the taskbar retreats into the edge of the desktop whenever any window has the focus. To display the taskbar, move the mouse pointer to the edge of the desktop where the taskbar is "hidden."

#### NOTE

Regardless of how you set the auto-hide option in the Taskbar And Start Menu Properties dialog box, you can make the taskbar visible at any time by tapping the Windows key or pressing Ctrl+Esc.

#### Moving the taskbar

The taskbar docks by default at the bottom of the screen, but you can move it to any other edge, including any edge of a secondary screen. To move the taskbar, select a Taskbar Location On Screen option in the Taskbar And Start Menu Properties dialog box.

As an alternative, you can manipulate the taskbar directly: unlock it (right-click an unoccupied spot and then click Lock The Taskbar—unless no check mark appears beside that command, which means that the taskbar is already unlocked). Then drag any unoccupied part of the taskbar in the direction you want to go. (Don't drag the edge of the taskbar closest to the center of the screen; doing that changes the taskbar's size, not its position.)

## Adding toolbars to the taskbar

A seldom-used feature of the taskbar is its ability to host other toolbars. Optional toolbars date back to much older versions of Windows, offering shortcuts to folders, documents, and applications. Third parties can also write add-ons that operate entirely within the confines of the taskbar. Built-in toolbars you can choose to install include the following:

Address. The Address toolbar provides a place where you can type an Internet address
or the name and path of a program, document, or folder. When you press Enter or click
the Go button, Windows takes you to the Internet address, starts the program, opens
the document, or displays the folder in a File Explorer window. The Address toolbar
is functionally equivalent to the Start menu's Run command or the address bar in File
Explorer or the Microsoft Edge browser.

- **Links.** The Links toolbar provides shortcuts to Internet sites; it is equivalent to the Links toolbar in Internet Explorer.
- Desktop. The Desktop toolbar provides copies of all the icons currently displayed on your desktop. In addition, it includes links to your Libraries, Homegroup, This PC, Network, Control Panel, and other user profile folders. When you click the toolbar's double arrow, a cascading menu of all the folders and files on your system appears.

To install a new toolbar or remove one you're currently using, right-click any unoccupied part of the taskbar or any existing toolbar. Click Toolbars on the menu that appears, and then choose from the ensuing submenu. A check mark beside a toolbar's name means that it is already displayed on the taskbar. Clicking a selected toolbar name removes that toolbar.

#### NOTE

You can also display any of the predefined toolbars (listed earlier) or remove any currently displayed toolbar by using the Toolbars tab of the Taskbar And Start Menu Properties dialog box.

In addition, any folder on your system can become a toolbar. To create a new toolbar, right-click an existing toolbar or a spot on the taskbar, click Toolbars, and then click New Toolbar. In the next dialog box, navigate to a folder and click Select Folder.

The folder's name becomes the name of the new toolbar, and each item within the folder becomes a tool.

## Controlling how notifications appear

Windows apps are continually notifying you that things have happened: you've received a new message, someone has mentioned you on Twitter or Facebook, or a news app has a breaking news headline to share. Windows gets in the act occasionally as well.

This type of notification appears in Action Center, where each such alert can be dismissed individually or you can clear the entire list with a single click or tap.

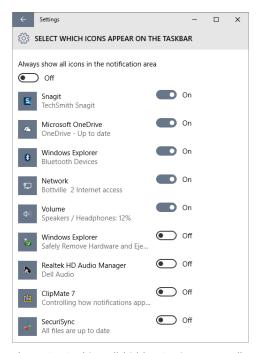
Confusingly, these new Action Center notifications, found only in Windows 10, share a name with a classic Windows feature: the notification area, also sometimes called the system tray or the status area, which appears at the right side of the taskbar, just to the left of the clock.

In previous versions of Windows, the taskbar often became crowded with tiny icons. Some of them supply notifications in the form of pop-up messages, but many don't "notify" you of anything and simply offer shortcuts to the parent program.

To deal with notification-area congestion, Windows 10 keeps a few essential icons visible at all times but hides those you aren't actually using. As a result, the notification area doesn't consume an increasingly large chunk of the taskbar; new icons are corralled in a box that appears only when you click the arrow at the left end of the notification area to display the hidden items.

To make an icon visible on the taskbar, drag it from the pop-up box containing hidden icons onto the taskbar. To hide an icon, drag it into the corral.

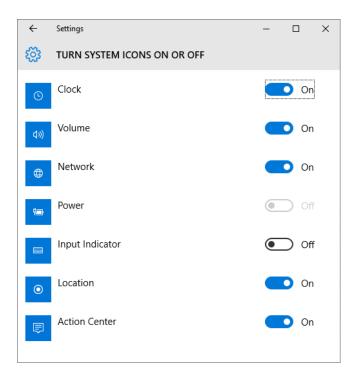
You can also see a list of notification area icons and specify exactly which ones will appear on the taskbar. To see how many taskbar icons you have and manually switch each one on or off, use your search skills to locate the Select Which Icons Appear On The Taskbar option. (If you want to open this Settings page manually, you'll find it in Settings under the System heading, on the Notifications & Actions tab.) That opens the Settings page shown in Figure 3-10.



**Figure 3-10** This well-hidden Settings page allows you to see a full list of tray icons and decide which ones should appear on the taskbar.

For each notification area icon, you can choose whether to show it on the taskbar at all times or to keep it hidden.

The system icons (Clock, Volume, Network, and so on) can be remanded to the box of hidden icons as well. But if you'd rather banish one or more of them altogether, search for the Turn System Icons On Or Off option, which produces this Settings page. Note that the Power icon is available only on portable PCs.



# Inside OUT

Use a keyboard shortcut for notification area tasks

If you're one of those users whose fingers never leave the keyboard, you can press Windows key+B to move the focus to the Show Hidden Icons arrow in the notification area. Press Spacebar or Enter to open the box of hidden tray icons. Use the arrow keys to select an icon, and Shift+F10 to display the icon's menu.

## Switching tasks

As in previous Windows versions, you can switch to a different program by clicking its taskbar button. And if you're not sure which icon your document is hidden under, hover the mouse pointer over a taskbar button to display a thumbnail image of the window above the button. If a taskbar button combines more than one window (representing multiple Microsoft Excel spreadsheets, for example), hovering the mouse pointer over the taskbar button displays a preview of each window.

If the live thumbnail isn't enough to help you select the correct window, hover the mouse pointer over one of the preview images. Windows brings that window to the fore, temporarily masking out the contents of all other open windows.

The alternative to this manual hunt-and-click technique is a new feature in Windows 10 called Task View, which displays large, live thumbnails of running programs on the screen so that you can switch with confidence.

To begin, click the Task View button or use the Windows key+Tab shortcut. On a touchscreen-equipped device, you can swipe in from the left edge. Figure 3-11 shows the results on a system with seven running programs on a PC operating in Tablet Mode.

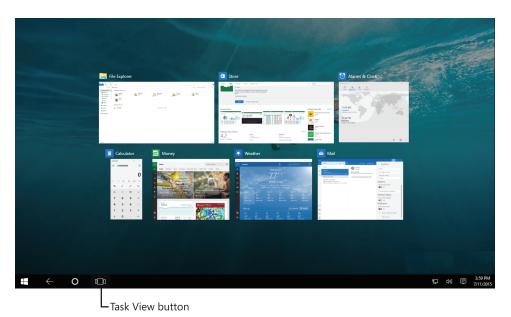


Figure 3-11 After you switch into Tablet Mode, opening Task View shows running programs using their windowed dimensions, but tapping any thumbnail opens it using the full screen.

Those thumbnails remain open until you do something, usually by clicking or tapping a thumbnail to switch to that window, or by pressing Esc to return to the current window.

If there are too many open windows to fit as thumbnails on the display, use the up and down arrows at the bottom of the screen to scroll through the full list.

The old-fashioned Alt+Tab task switcher, familiar to every Windows user of a certain age, is still available as well. The concept is similar, but the thumbnails are smaller and appear only as long as you continue to hold down the Alt key. Hold down Alt and tap the Tab key to cycle (left to right, top to bottom) through all open windows, with a display that looks like the one in Figure 3-12. When you've highlighted the window you want to bring to the fore, release the Alt and Tab keys.

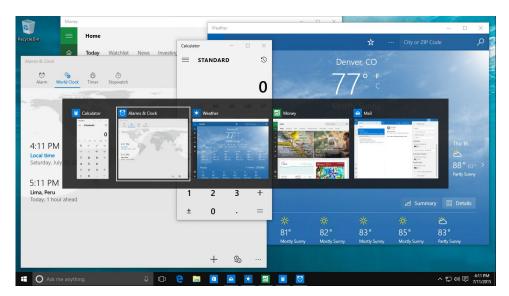


Figure 3-12 Longtime Windows experts who have the Alt+Tab task-switching shortcut firmly ingrained will be relieved to know it still works in Windows 10.

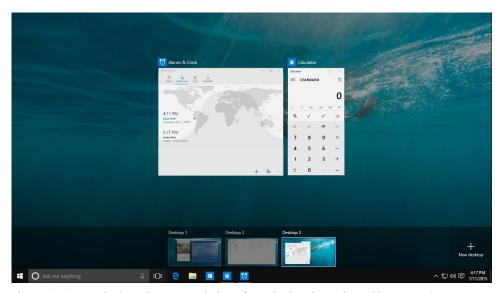
When using Task View, you also have the option of closing a window by clicking the red X in the upper right corner of the preview or, if your mouse scroll wheel supports clicking, by middle-clicking anywhere in the preview image. Other basic window tasks are available on the shortcut menu that appears when you right-click the preview image.

## Switching between virtual desktops

Virtual desktops have been reserved exclusively for power users in previous Windows versions, with the feature requiring the use of third-party utilities.

The idea is straightforward: instead of just a single desktop, you create a second, third, fourth, and so on. On each desktop, you arrange individual programs or combinations of apps you want to use for a specific task. Then, when it's time to tackle one of those tasks, you switch to the virtual desktop and get right to work.

Virtual desktops show up along the bottom of the Task View window. Figure 3-13, for example, shows a Windows 10 system with three virtual desktops configured.



**Figure 3-13** In Task View, choose any desktop from the list above the taskbar to see its contents and close programs or drag them to a different desktop.

To create a desktop, click New Desktop in the lower right corner of the Task View window.

And no, there's no option to save virtual desktop configurations so that you can resume with your carefully constructed desktop layout after a restart. You have to start from scratch. We predict (perhaps from wishful thinking) that this feature will make it into a Windows 10 update in the near future.

# Using Windows 10 on a touchscreen device

Tablet Mode was specifically designed for sustained use with a touchscreen-equipped device such as a tablet or hybrid PC. We've already discussed the Windows user experience with a conventional PC. Tablet Mode introduces a series of significant changes, automatically if it detects that you're using a touchscreen device without a keyboard attached, or manually if you want to treat a touchscreen-equipped laptop as if it were a tablet. (In fact, you can enable Tablet Mode on a desktop PC without a touchscreen or even a touchpad; the resulting experience might be helpful for someone who occasionally wants that immersive, full-screen environment.)

Turning on Tablet Mode makes the following changes in the Windows 10 user experience:

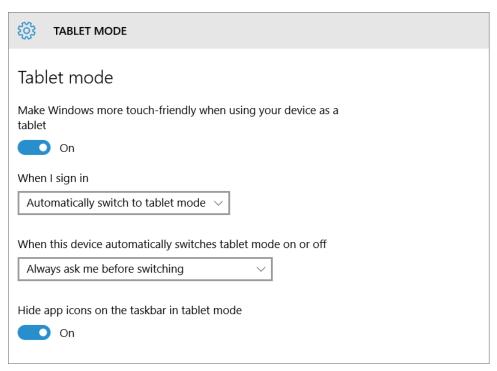
 Reconfigures the taskbar, bumping up button sizes, adding a back button, replacing the search box with a search button, and hiding all taskbar buttons. The following comparison shows the normal taskbar on top and the same area in Tablet Mode below it.



- All apps run in full screen. It's possible to snap two apps side by side, but they have a thick sizing bar between them, similar to the one introduced in Windows 8.
- The Start menu opens in full screen, with the left column hidden by default and accessible only by tapping a so-called hamburger menu (a stack of three lines that resembles a beef patty between two buns) in the upper left corner of the display.
- Swiping from the left and right enables Task View and Action Center, respectively.

Windows 10 makes some assumptions about your preferences based on your hardware. On conventional PCs with a keyboard and mouse, Tablet Mode is off. On dedicated tablets, this mode is on by default. You can adjust these preferences by using the Settings page shown in Figure 3-14. On a hybrid device with a relatively small touchscreen, you might prefer to have Tablet Mode on full time, for example.

The other essential feature of a touchscreen-equipped device, especially one without a keyboard, is the presence of the extremely versatile Windows 10 Touch Keyboard. It allows text entry into dialog boxes, web forms, your browser's address bar, documents, the search box—anywhere you would normally need a physical keyboard to provide input.



**Figure 3-14** These settings are appropriate for a hybrid device that you switch into Tablet Mode occasionally.

Figure 3-15 shows the standard Touch Keyboard layout.



**Figure 3-15** This is the standard Touch Keyboard; use the controls in the upper right to move, dock, or close the keyboard.

The Touch Keyboard should appear automatically when you tap to position the insertion point in a place that accepts text entry. On touchscreen-equipped devices, you can make the Touch Keyboard appear by tapping its button, which appears in the notification area on the right of the taskbar. (If this button is hidden, right-click or do a long press on the taskbar and then select the Show Touch Keyboard Button option.)

The limited screen space available for the Touch Keyboard means you have to switch layouts to enter symbols and numbers. Tap the &123 key in the lower left corner to switch between the standard QWERTY layout and the first of two symbol layouts, as shown in Figure 3-16. Note that the layout includes a dedicated number pad, which is extremely handy for working with spreadsheets and performing other data-entry tasks.



Figure 3-16 Tap the &123 key in the lower left corner to switch between the standard QWERTY keys and this alternate view of symbols and numbers.

In some respects, the Touch Keyboard is more versatile than its physical counterparts. Entering typographic symbols like the interrobang or emoji—the whimsical characters available on all mobile platforms and on Windows 10—doesn't require the use of ANSI codes. Instead, you can enter characters directly. To show the first of more than 30 emoji keyboard layouts, each containing 30 symbols, click the "happy face" button on the bottom row.

With the emoji keyboard layout visible, the bottom row displays keys that you can use to switch between different categories, several of which have multiple layouts, accessible via the left and right arrows below the Tab key. Figure 3-17 shows a useful layout from the Objects & Symbols category.



**Figure 3-17** Windows 10 supports hundreds of emoji characters. Pick a category from the bottom row and use the arrow keys to scroll through different character sets, 30 at a time.

#### NOTE

For a full list of officially supported Windows-compatible emoji characters, see <a href="http://emojipedia.org/microsoft-emoji-list/">http://emojipedia.org/microsoft-emoji-list/</a>.

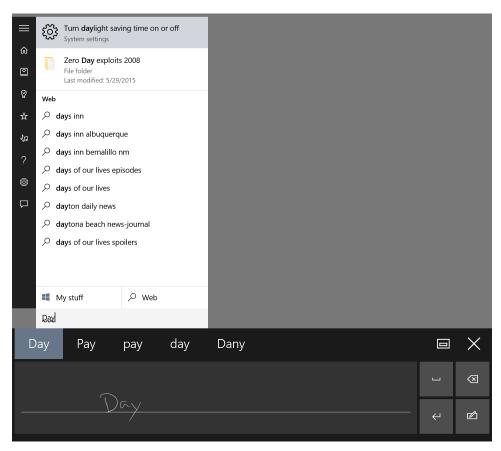
In addition to the conventional QWERTY layout, the Touch Keyboard comes in some variations, which are accessible by tapping the Switch key in the lower right corner, as shown in Figure 3-18.



**Figure 3-18** Tap the Switch key in the lower right corner of any keyboard layout to change to a different arrangement or adjust language preferences.

The Handwriting panel, shown in Figure 3-19, is most useful with devices that support pen input, such as Microsoft's line of x86-based Surface and Surface Pro devices. (The ARM-based

Surface RT and Surface 2 devices do not support Windows 10.) Text you enter in the input box is automatically translated into characters for entry at the current insertion point.



**Figure 3-19** The handwriting input box does a frankly remarkable job at translating even sloppy penmanship into readable results.

Handwriting recognition is excellent, even for casual entry. As Figure 3-19 shows, you also have autocorrect options if the recognition engine guesses wrong.

# Inside OUT

#### Using ink and handwriting

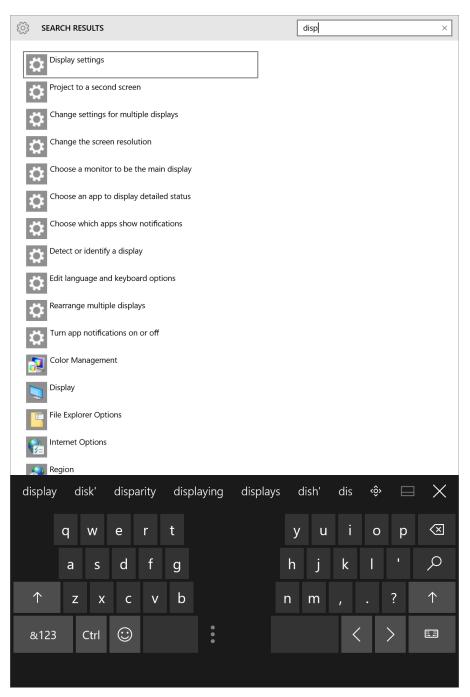
When you use a pen to scribble a handwritten note or sketch a figure within a penaware application, you create a type of data called ink. Although it superficially resembles a simple bitmap, ink-based data contains a wealth of information in addition to the simple shape. Windows records the direction, pressure, speed, and location of the tablet pen as it moves and stores the resulting marks as a compressed graphic. If you enlarge a piece of data that was stored as ink, Windows uses this stored data to ensure that it keeps its proper shape.

By recognizing the combinations of strokes that represent handwritten letters, the operating system can convert even bad handwriting into text, and with surprising accuracy. You don't have to convert ink into text to get the benefits of handwriting recognition, either. The handwriting recognizer automatically converts handwriting to text in the background, storing the resulting text along with the ink and adding the recognized words and phrases to the search index.

Applications that fully support ink as a data type are relatively rare, but you can perform some remarkable feats with those that do exist. Using Microsoft Word, for instance, you can insert handwritten comments and annotations into a document. Another member of the Office family, OneNote, goes even further, indexing your handwritten notes and allowing you to search through an entire notebook for a word or phrase.

Although you need a pen and a touchscreen that supports digitizing capabilities to add ink to a document using Windows 10, the resulting ink-based data is visible on any Windows-based system, with or without a touchscreen.

The Split Keyboard layout, shown in Figure 3-20 on a Surface 3 in portrait orientation and in Tablet Mode, is extremely odd looking until you imagine trying to tap text with one finger as you hold a tablet in your other hand. With the split layout, you can grip a tablet in portrait or landscape mode and use your thumbs for typing. It takes some practice, but anyone who ever used an old-school BlackBerry phone can confirm that with practice you can achieve startling typing speed.



**Figure 3-20** This split keyboard layout works best on a smaller tablet, where you can comfortably type with two thumbs.

By default, the Touch Keyboard appears at the bottom of the screen, pushing the contents of the page above it for unobstructed text entry. An X in the upper right corner lets you close any keyboard layout, a second button allows you to lock the keyboard into position, and the four-headed button lets you move a floating keyboard to a more comfortable position on a larger display.

# Managing and arranging windows

Windows 10 includes a host of keyboard shortcuts and mouse gestures that greatly simplify the everyday tasks of resizing, moving, minimizing, arranging, and otherwise managing windows. The most useful trick is a collection of "snap" techniques. These have been around for several Windows versions, but Windows 10 adds some extremely useful new tricks to the old familiar methods.

The simplest window-snapping scenario is a PC with a single display, where you want to arrange two windows side by side. You might want to compare two Word documents, move files between the Documents folder and an archive, or do financial research in a web browser and plug the numbers into an Excel spreadsheet.

Drag a window title bar to the left or right edge of the screen, and it snaps to fill that half of the display. As soon as you let go of the title bar, the window snaps into its position and Windows helpfully offers thumbnails for all other open windows to help you choose what to run alongside your first snapped window.

In Figure 3-21, for example, we've just snapped a File Explorer window to the right side of the screen and now have a choice of four other running windows to snap opposite it. (If you don't feel like snapping a second window, just press Esc or click anywhere except on one of those thumbnails. They vanish immediately.)

Here are a few ways you can snap windows in Windows 10 by using a mouse or by dragging directly on a touchscreen:

- Drag the title bar to the top of the screen to maximize the window, or drag the title bar away from the top edge to restore it to its previous window size.
- Drag a window title bar to any corner of the screen, and it snaps to fill that quadrant
  of the display. This capability is new in Windows 10 and is most useful on large, highresolution desktop displays.
- Drag the top window border (not the title bar) to the top edge of the screen, or drag
  the bottom border to the bottom edge of the screen. With either action, when you
  reach the edge, the window snaps to full height without changing its width. When you
  drag the border away from the window edge, the opposite border snaps to its previous
  position.

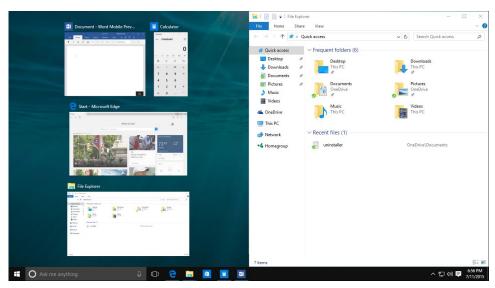


Figure 3-21 When you snap a window to one edge of the display, Windows shows other open windows in thumbnails alongside the snapped window for easy side-by-side arrangement.

Note that the window resizes when the mouse pointer hits the edge of the screen. To use this feature with minimal mouse movement, start your drag action by pointing at the title bar near the edge you're going to snap to.

As soon as you begin dragging a snapped window away from the edge of the screen, it returns to its previous size and position.

## Inside OUT

Snap side-by-side windows at different widths

Although Windows automatically arranges side-by-side windows at equal widths, you don't have to settle for symmetry. On a large desktop monitor, for example, you might want to arrange a news feed or Twitter stream along the right side of your display, using a third or less of the total display width and leaving room for Word or Excel to have a much larger share of the screen real estate.

The secret is to snap the first window and immediately drag its inside edge to adjust the window to your preferred width. Now grab the title bar of the window you want to see alongside it, and snap it to the opposite edge of the display. The newly snapped window expands to fill the space remaining after you adjusted the width of the first window.

The rules work the same with multimonitor setups. With two side-by-side monitors, for example, you can drag the mouse to the inside edge of a display and snap a window there, allowing for four equal-size windows lined up from left to right. Dragging the title bar also allows you to move a maximized window from one screen to another on a multimonitor system.

## Inside OUT

#### Shake to minimize distractions

An ancient Windows feature called Aero Shake, first introduced with Windows Vista, survives into Windows 10. Grab the window's title bar with the mouse or a finger and quickly move it back and forth a few times. Suddenly, all windows retreat to the taskbar except the one whose title bar you just shook. This move takes a bit of practice, but it's worth mastering. It requires only three smooth "shakes"—a left, right, left motion is best—not maniacal shaking.

Windows 10 includes keyboard shortcuts that correspond with the preceding mouse gestures. These (and a few extras) are shown in Table 3-1.

Table 3-1 Keyboard shortcuts and gestures for resizing and moving windows

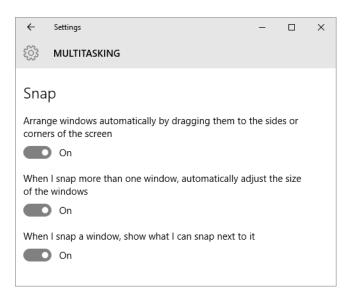
Task	Keyboard shortcut	Gesture
Maximize window	Windows key+ Up Arrow	Drag title bar to top of screen
Resize window to full screen height without changing its width	Shift+Windows key+ Up Arrow	Drag top or bottom bor- der to edge of screen
Restore a maximized or full-height window	Windows key+ Down Arrow	Drag title bar or border away from screen edge
Minimize a restored window	Windows key+ Down Arrow	Click the Minimize button
Snap to the left half of the screen	Windows key+ Left Arrow*	Drag title bar to left edge
Snap to the right half of the screen	Windows key+ Right Arrow*	Drag title bar to right edge
Move to the next virtual desktop	Ctrl+Windows key+ Left/Right Arrow	Three-finger swipe on pre- cision touchpad; none for mouse
Move to the next monitor	Shift+Windows key+ Left/Right Arrow	Drag title bar

Task	Keyboard shortcut	Gesture
Minimize all windows except the active window (press again to restore windows previously minimized with this shortcut)	Windows key+ Home	"Shake" the title bar
Minimize all windows	Windows key+M	
Restore windows after minimizing	Shift+Windows key+M	

<sup>\*</sup> Pressing this key repeatedly cycles through the left, right, and restored positions. If you have more than one monitor, it cycles these positions on each monitor in turn.

The Windows 10 taskbar also exposes some traditional window-management menus. The secret? Hold the Shift key as you right-click a taskbar button. For a button that represents a single window, the menu includes commands to Restore, Move, Size, Minimize, Maximize, and Close the window. For a grouped taskbar button, Shift+right-click displays commands to arrange, restore, minimize, or close all windows in the group.

If you find it disconcerting to have windows snap to a certain size and position when you drag their title bars, you can disable Snap. These options are well hidden on the Multitasking page in System Settings; it's easier to find them by typing **Snap** in the search box.



## Cortana and search

We start this section with a disclaimer: Search, as a Windows 10 feature and as an online service, is evolving at breathtaking speed. The results that show up in the search box are delivered by online services that are constantly improving, as are the Windows features you use to make those requests. Our goal in this section is not to show you how to accomplish specific search tasks but to help you discover what search is capable of accomplishing for you.

Search is built into Windows 10 as an integral feature that gets prime real estate, just to the right of the Start button.

By default, on desktop and laptop PCs, this space is occupied by a search box. In Tablet Mode (or if you change the default setting), a search button appears, which expands into a box when you tap or click it.

By default, Windows Search is businesslike and efficient, with no personality. You type something in the search box and see results like those shown in Figure 3-22. Windows Search is very good at finding settings and apps, as you can see.

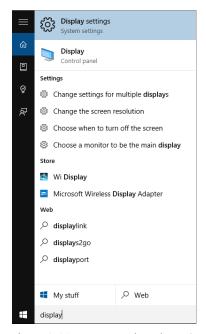
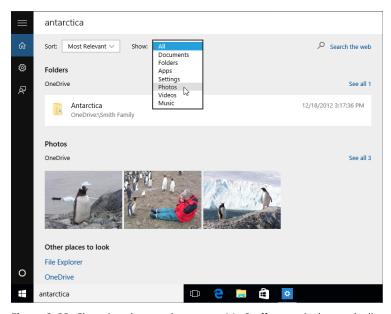


Figure 3-22 Type a word or phrase in the search box, and you get a list of settings and apps that match the search term, with options at the bottom to search personal files or the web.

If you're more interested in finding a photo or a PowerPoint presentation, enter your search term and then click or tap My Stuff to change the search scope. That immediately expands the size of the search results window, as shown in Figure 3-23, and displays results that match your search terms.



**Figure 3-23** Changing the search scope to My Stuff expands the results list and turns up photos, documents, and more, with sort and filter options up top.

➤ For more detailed instructions on how to use Windows Search from File Explorer, see "Using Windows Search" in Chapter 12, "Organizing and searching for files."

## Inside OUT

Don't want search? Hide it.

As with most things Windows, you can remove the search button or box completely if you're really convinced you won't use it. You can also specify that you want a button or a box, regardless of whether you're on a PC or tablet. All of these options are in the Taskbar And Start Menu Properties dialog box, on the Toolbars tab.

Cortana, the intelligent search assistant built into Windows 10, adds an adult's voice and a (programmed) sense of humor to the core search experience. It also adds the ability to perform additional tasks, such as adding items to a to-do list, and to deliver regular updates that match your interests, as defined in a notebook full of settings.

In many ways, Cortana today is like a two-year-old prodigy. Despite the pleasant female voice and the mostly natural intonations, "she" is really a web service, which is constantly learning and adding capabilities.

For a partial list of things Cortana can do for you, just ask. Click the microphone button in the search box and say, "What can you do?" That should produce a list like the one in Figure 3-24.

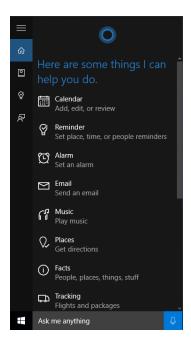


Figure 3-24 If you're not sure what Cortana can do, just ask, "What can you do?"

Because Cortana requires that you grant access to personal information, you need to go through a brief but important setup first. Pay special attention when the setup wizard asks for permission to use your microphone to accept spoken input. (Note: You're perfectly free to say no, but that changes the experience significantly.)

The icon bar along Cortana's left edge is cryptic at first. For a more thorough explanation of what each icon means, click the hamburger menu in the top left corner, next to Cortana's name, to see the list with descriptive labels attached, as in Figure 3-25.

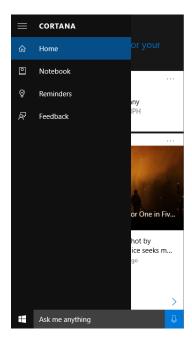


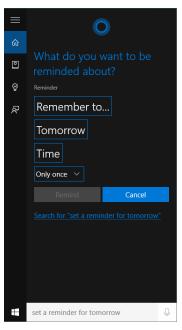
Figure 3-25 Click or tap the hamburger menu in the top left of the Cortana window to display labels identifying what each of the options along the left side does.

The tasks Cortana can complete on your behalf include adding appointments and reminders, creating notes, setting alarms, retrieving a weather forecast, and checking your calendar for upcoming events. Figure 3-26, for example, shows the response when you ask Cortana to set a reminder.

Cortana is most valuable on mobile devices, of course, where the ability to ask a question (literally) and get a useful answer is paramount. But she is a handy assistant in an office as well.

In addition to taking over search duties for files, folders, settings, music, and so on, Cortana can return results based on information you've allowed her to search. Just clicking in the search box allows Cortana to display a scrolling list of useful information: news headlines, stock prices from your watch list, results from your favorite team's latest game, weather forecasts, and reminders on when you need to leave to arrive on time for an appointment.

You establish those interests in an initial, brief interview, but you can expand or change those interests later by visiting the Cortana notebook. To start, click the Notebook icon, just below Home on Cortana's left side. That opens a dialog box like the one shown in Figure 3-27.



**Figure 3-26** If you ask Cortana to set a reminder or create an appointment, she responds with this crisply efficient form.

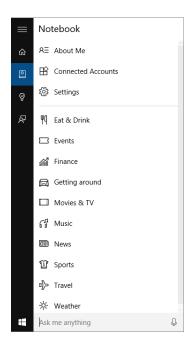
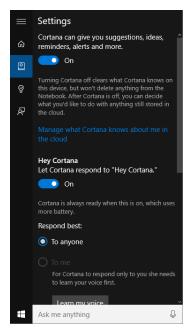


Figure 3-27 Use Cortana's notebook to customize your interests and help make the "Here's what's happening now" summaries more useful.

You have every right to be concerned about privacy when using a service that knows so much about your daily routine. You can read the Cortana privacy policy by following a link at the bottom of the Cortana Settings pane, shown in Figure 3-28.



**Figure 3-28** The Cortana Settings pane allows you to read the privacy policy, disable the service and clear local information, or go online and delete all saved information.

The top option on this window turns Cortana off and deletes any locally saved information. To delete personal information saved on Microsoft's servers, click or tap Manage What Cortana Knows About Me In The Cloud and follow the instructions.