



Advanced Guide to Windows 10

Get more from Windows 10 on your PC



Inside...

Windows Hardware
Optimisation Guides

Windows Customise the
Windows 10 OS

Windows Maintain and
Protect Windows

Windows Unlock Hidden
Windows Tools

Advanced Guide to Windows 10

Whether you have been using the latest OS since its release or if you are only just getting around to upgrading, the Advanced Guide to Windows 10 is full of useful advice, essential tips and all you need to take your computing knowledge to the next level. Our step-by-step guides and tutorials make getting the most from your computer easy; and there is something new to learn on every page.

From maintaining and optimising your key hardware, to delving under the hood of the operating system with tweaks and mods, there is something here for anyone who wants to go beyond being able to send an email and browse the Internet. So what are you waiting for? Dig out your best screwdriver, crack those knuckles and get ready to push your skills to the next level!



Windows 10 Customisation

8	Complete Guide to Personalisation
16	10 Things to Disable in Windows 10
18	Lock Screen Tips and Tricks
20	Creating Web Apps with Chrome
22	Changing File Associations and Protocols
24	Disable Adverts and Annoyances
26	Customise the Command Console Screen
30	Tweak and Modify Windows 10
32	Using the Task Scheduler
36	Create Presentations with Sway

6

8

Complete Guide to Personalisation

This personalisation feature will show you how to make Windows 10 yours.

Contents Advanced Guide to Windows 10

Upgrading to an SSD

Learn how to replace your old HDD with a faster, quieter Solid State Drive.

64

Hardware and Software Optimisation

38

40	Get the Windows 10 Anniversary Update
42	Update Your Motherboard BIOS
46	Update Your Device Drivers
48	Disable Unneeded Start-up Items
50	Turn Off Unnecessary Visual Effects
52	Remove Windows 10 Bloatware
54	Defragment Your Hard Drive
56	Using the Task Manager
58	Manage Your Background Tasks
60	Upgrading Your RAM Modules
64	Upgrade to a Solid State Drive (SSD)
68	Migrating Windows 10 to a New SSD
72	Upgrade Your Graphics Card

76

Windows 10 Advanced User Guides

78	Using Python in Windows 10	94	Add a Shutdown Timer to the Desktop
80	Getting to Know Python	96	Windows 10 Registry Tweaks
82	Choose and Install a Text Editor	98	Installing WordPress on Windows 10
84	Hello, World: Commands and Sequences	102	Essential Cortana Commands List
86	Python Bugs and Debugging	104	Setting Cortana Reminders
88	Learning If and Else in Python	106	Set Search to Use Local Search Only
90	Run Ubuntu on a Windows 10 PC	108	Make Cortana Use Firefox and Google
92	Enable Bash in Windows 10	110	Set Up Cortana Voice Search
		112	Disable the Cortana Assistant
		114	Managing Your Notifications
		116	Set Up the Quick Actions Panel
		118	Touchpad Gestures and Hotkeys
		120	Windows 10 Hotkeys
		122	Enable the GodMode Folder
		124	Put a Desktop Link on the Taskbar
		125	Put a Web Search Bar on the Taskbar
		126	Pin Settings to the Start Menu
		128	Mastering Microsoft Edge
		132	Advanced Options in Microsoft Edge

102

Essential
Cortana Commands

Make more of the Cortana personal assistant by learning these commands.

134

Windows 10 Tips and Tricks

136	Windows 10 Expert Tips and Tricks
140	Further Tips to Improve Performance
142	Troubleshooting Windows 10
144	Windows 10 Troubleshooting Tips

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16

10 Things to Disable

Windows 10 is full of extras that you just don't need. Learn how to disable them, easier and faster.



Stop Windows 10 Adverts

These tips will allow you to block the adverts Microsoft has added to Windows 10.

24

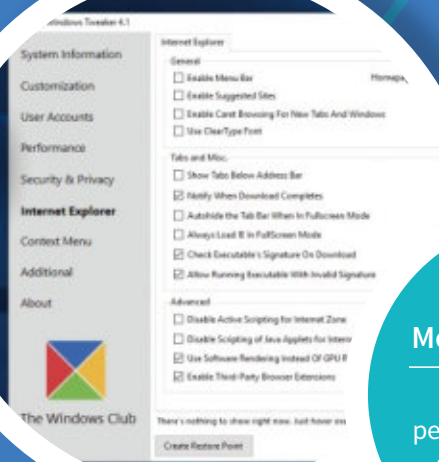
Windows 10 Customisation

From personalising the desktop environment to customising the Start menu, Windows 10 allows for a huge amount of tweaking and tinkering to get things set up exactly as you want; and it isn't only the look of the OS you can change. By clever use of external software or by learning how to get the most from internal features, you can even customise things you may never have thought possible.

Contents

- | | | | |
|----|--|----|--------------------------------------|
| 8 | Complete Guide to Personalisation | 24 | Disable Adverts and Annoyances |
| 16 | 10 Things to Disable in Windows 10 | 26 | Customise the Command Console Screen |
| 18 | Lock Screen Tips and Tricks | 30 | Tweak and Modify Windows 10 |
| 20 | Creating Web Apps with Chrome | 32 | Using the Task Scheduler |
| 22 | Changing File Associations and Protocols | 36 | Create Presentations with Sway |

30



Tweak and Modify Windows 10

Learn how to personalise Windows 10 even more with this simple software tool.

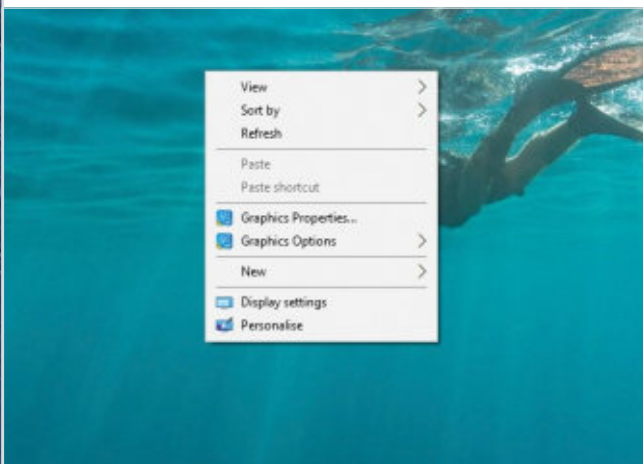
Complete Guide to Personalisation

One of the most welcome features of Windows 10 is the return to the familiar desktop environment and there are many ways to customise it to suit your needs and tastes. This can include icon size, background image and colour scheme..

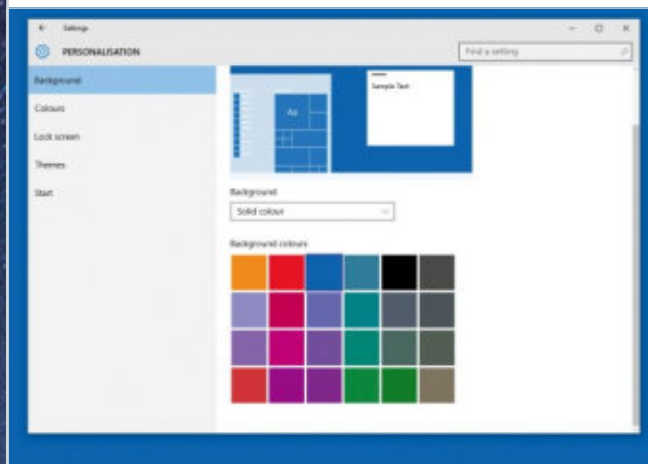
Updating Windows 10

You may see a popup telling you that the Anniversary update is available to download and install but if you need to, you can check and install manually..

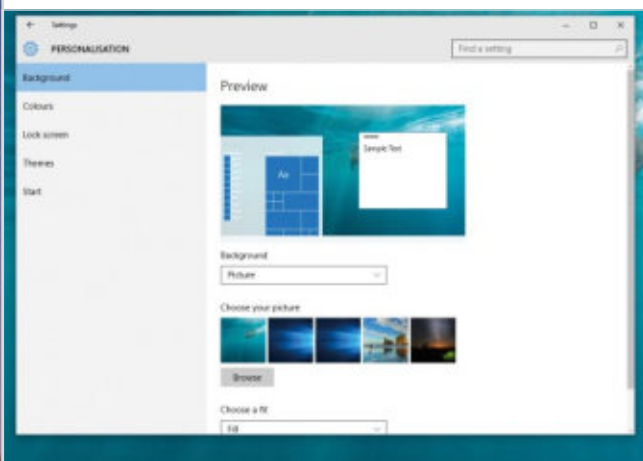
Step 1 You get started with personalising the Windows 10 Desktop in exactly the same way as you did with Windows 7. Right-click anywhere on the Desktop screen and select Personalise from the pop-up menu, or select Personalisation from the Settings menu.



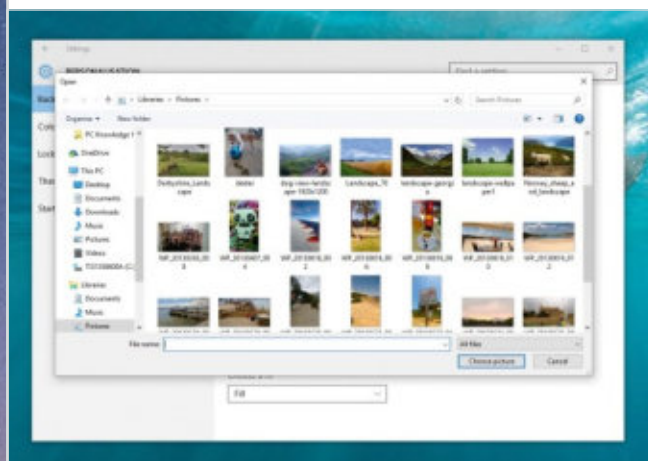
Step 3 The Background pop-up menu has three options: a stationary picture, a solid colour or a slideshow. The solid colour brings up a palette of colours to choose from. You can click on any of the blocks to see how it will look in the preview window at the top.



Step 2 The Personalisation screen has changed somewhat from Windows 8.1. Now the first page offers a menu of customisation options, starting with the background. You can use the default backgrounds, solid colours or choose to display folders of your own images.

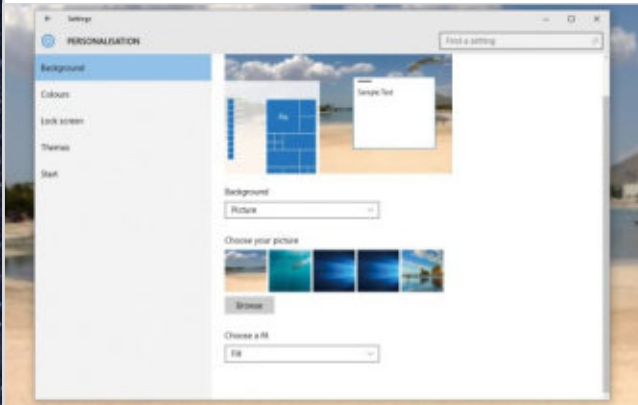


Step 4 To select your own pictures, click on the Browse button and navigate to the folder containing the images you want to use. For best results, you might need to crop some of your pictures to the same aspect ratio, widescreen etc., as your monitor screen.



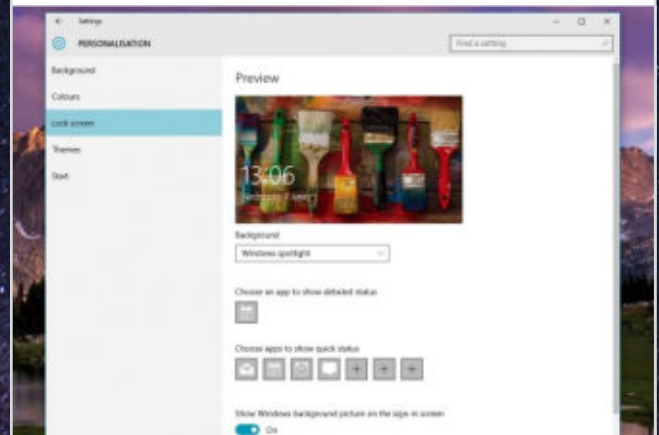
Step 5

To set a picture as your Desktop background, simply click on it. It will instantly be set as your new Desktop background image. The screen shows you the last five images that you used or you can click the Browse button to choose a new one from your folders.



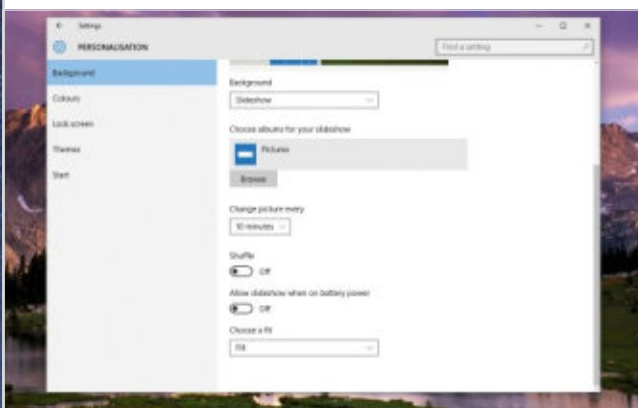
Step 8

You can also choose a picture for the lock screen. There is a menu option for a slideshow on the lock screen too but unfortunately it doesn't work too well and always seems to stay on the first image that you choose.



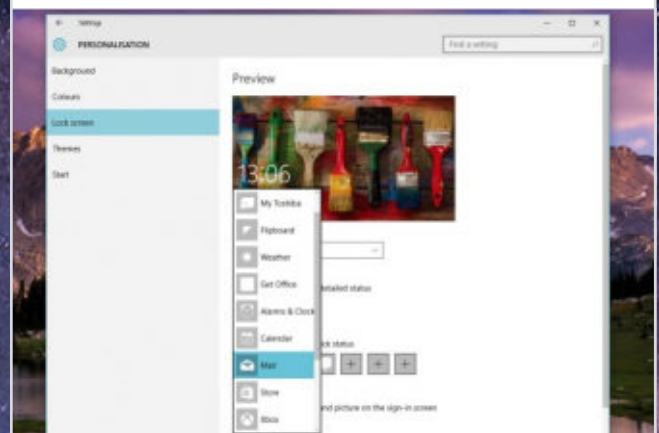
Step 6

If you choose Slideshow, you will see some additional options to choose from. You can set the interval for the slide show from the Change picture every menu and decide how you'd like the images to fit on the screen by clicking the Choose a fit menu.



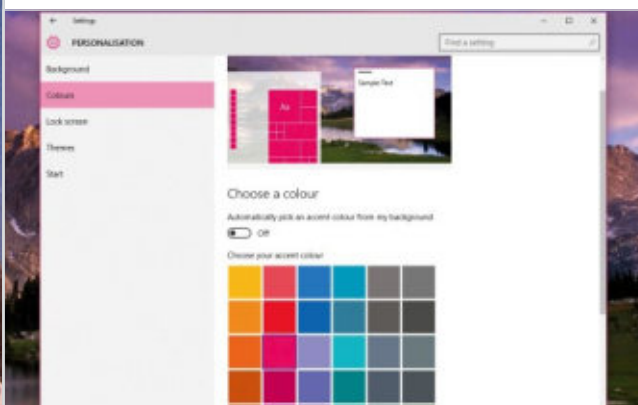
Step 9

The lock screen can also show some information from installed apps. You can choose one app to provide detailed status, such as calendar appointments or Facebook notifications, and upto seven apps to provide brief status updates.



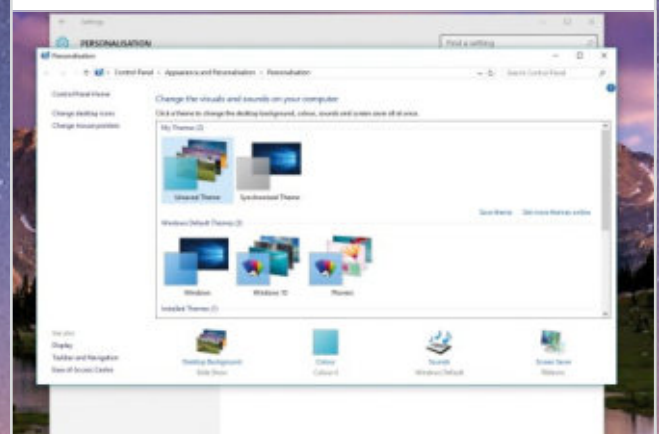
Step 7

As well as the desktop background, you can also change the colour of the taskbar and the Start menu. Click on the Colours option in the menu sidebar and choose an accent colour. You can also let Windows automatically match the accent colour to the current desktop image.



Step 10

If you can't decide on your own personalised desktop theme, Windows provides a number of built-in choices. Click on Themes in the menu sidebar and then click on Theme settings to see the available options.

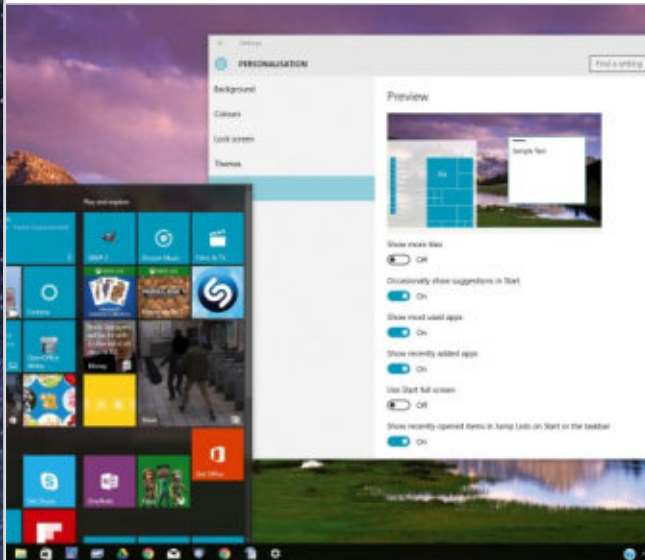


Personalise the Start Menu

The final Customisation menu option lets you customise the Start menu to a certain extent, allowing you to change things like whether recent apps are shown and if Windows 10 can show app suggestions.

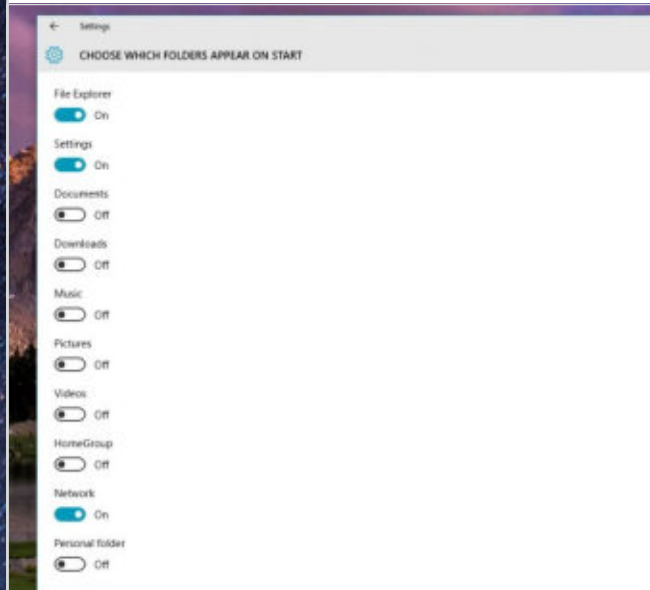
Step 1

You are presented with a list of toggle switches that activate certain options. The Use Start full screen effectively returns you to the Windows 8.1 Start screen, so you'll probably want to leave it off unless you have a specific need for a full screen menu.



Step 2

Clicking on Choose which folder appear on Start lets you choose from a list of preinstalled shortcuts to your Library folders. Choose only those you really need to have there, otherwise the Start menu can quickly become hopelessly cluttered.

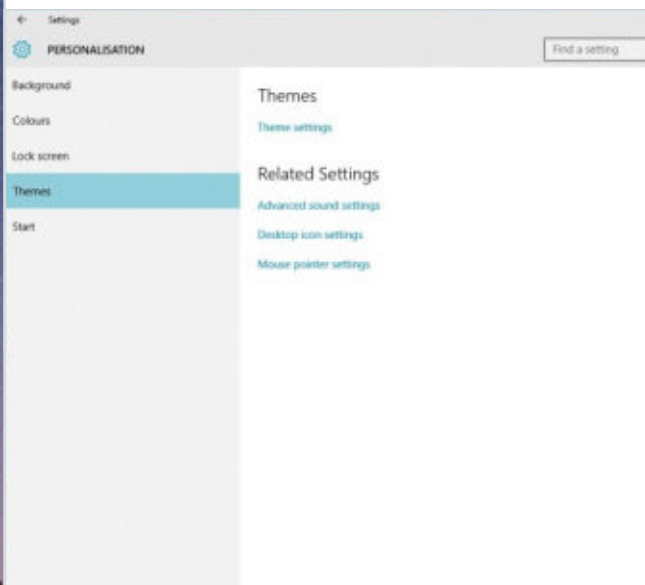


Personalise Windows Sounds

You don't like the default Windows sounds? You want to replace them with all your favourite Star Trek sound effects? No problem!

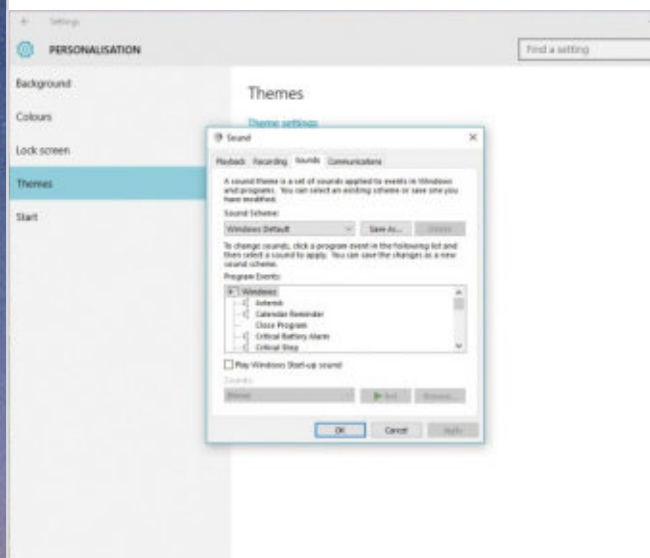
Step 1

To change the sounds that Windows uses to notify you about events and problems, open the Personalisation control panel as explained previously and click on Themes in the sidebar menu, then click on Advanced sound settings.



Step 2

To change a sound, first select it from the list of sounds shown in the Sounds control panel, then click on the Browse button. Navigate to the folder containing the sounds that you want to use and then double-click the new sound. You can click on the Test button to hear what it sounds like.

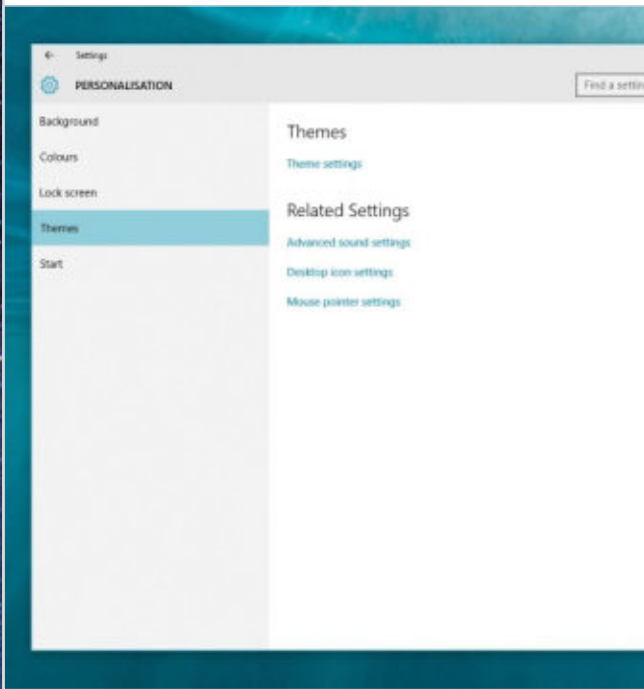


Change Your Desktop Icons

If you use desktop icons such as This PC, your personal folder or Network connections, you can change those icons. This is not something everybody would think about doing but is worth it if you want a specific style.

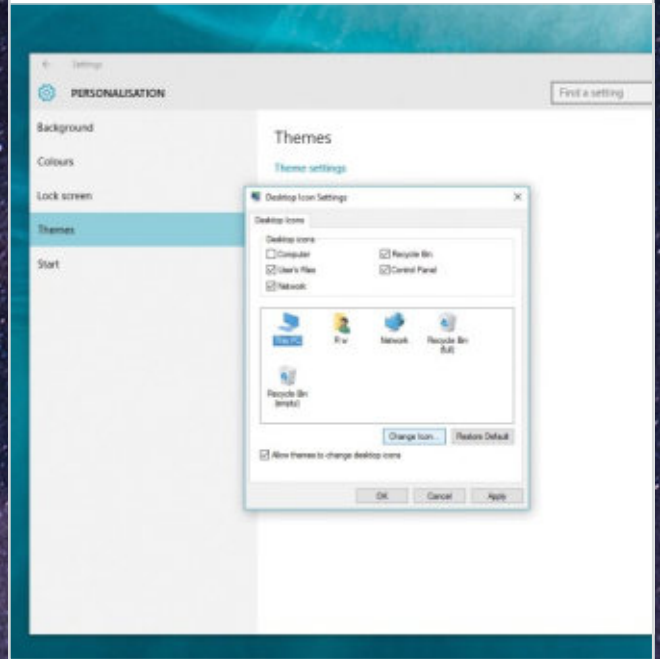
Step 1

Open the Personalisation screen of the Settings menu and select Themes from the sidebar menu. You now need to look for the Related Settings option. In the Related Settings section, click on the link to Desktop icon settings.



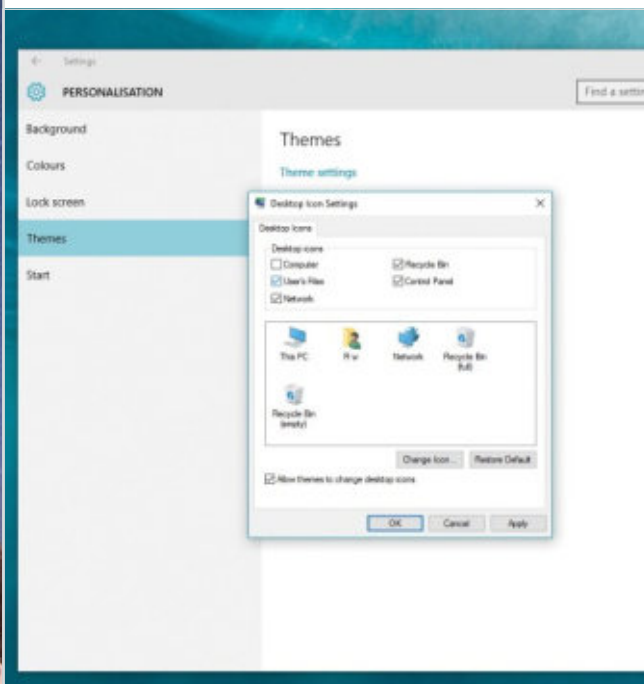
Step 3

If you wish to do so, it is possible to choose different icons for these system tools; you can even download custom icons online. To change the appearance of the desktop icons, click on the icon you want to change and then click the Change Icon button.



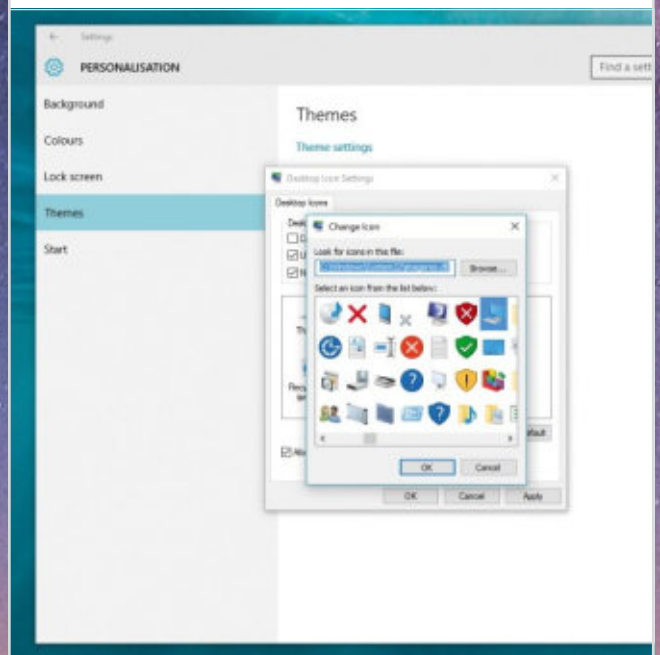
Step 2

The window that now opens lets you choose which default icons will appear on your desktop. The Recycle Bin is pretty much essential but the others, including Computer, Users Files, Network and Control Panel icons, are optional.



Step 4

The icon chooser window that appears will look very familiar to veteran Windows users, since it's essentially unchanged from Windows 98. Scroll through the gallery until you find an icon you like or use the Browse button to navigate to any icon pack you've downloaded.



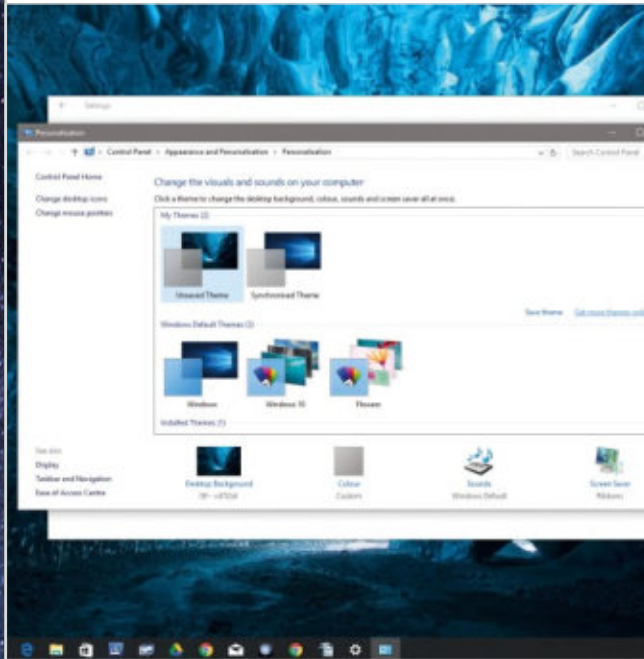
Adding New Themes

Themes can be added from a variety of sources but the best place to find them initially is the official theme page from Microsoft. You can explore other sources as you gain confidence.

Step 1

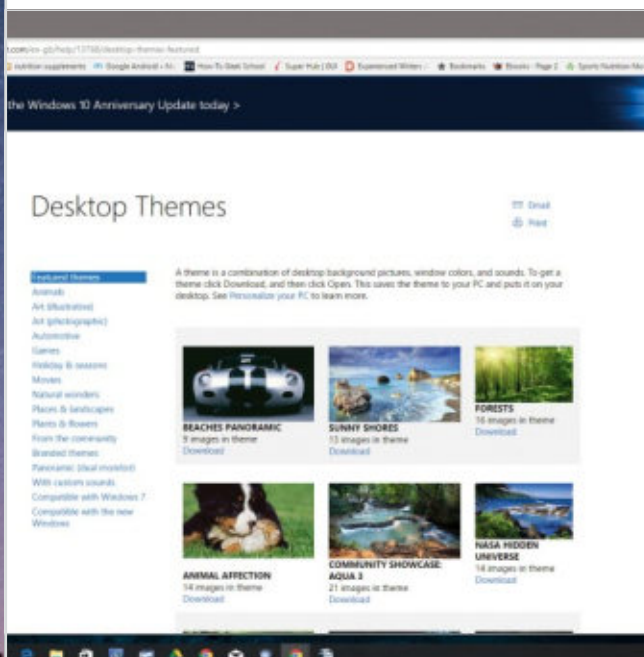
Step 1

You can access the theme page in a couple of different ways. You can either open the web browser and navigate to support.microsoft.com/en-gb/themes or Google 'Windows 10 themes'. Alternatively, open Settings > Personalisation > Themes > Theme Settings > Get Themes Online.



Step 2

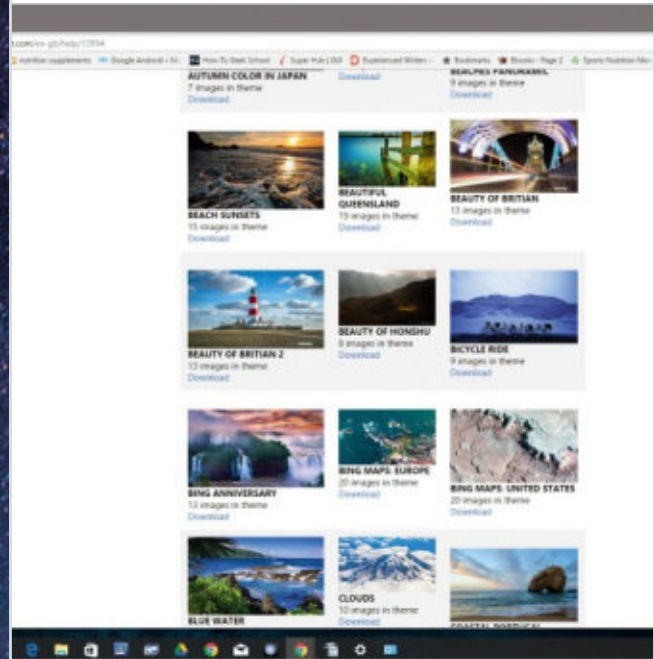
Step 2 Both actions should bring you to the same themes page. Themes are listed in a variety of categories down the side of the page, including Featured themes, Animals, Natural wonders, Cars, Panoramic (for dual monitors) and With custom sounds.



Step 3

Step 3

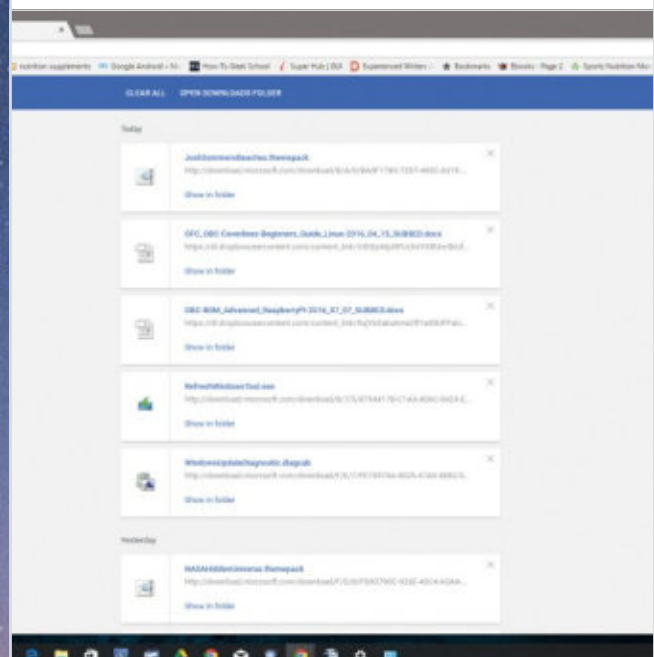
Each theme is displayed with a thumbnail and the number of included images shown. The Microsoft theme page doesn't allow you to view all of the included images before you download, you just have to base your choice on the title and thumbnail. Click Download on any that you like the look of.



Step 4

Step 4

Different themes will contain different amounts of content. Some might only have a colour profile and a few desktop wallpapers, others might contain icons, colours, wallpapers or sounds. However, even the simplest of themes is still more than changing the desktop wallpaper.

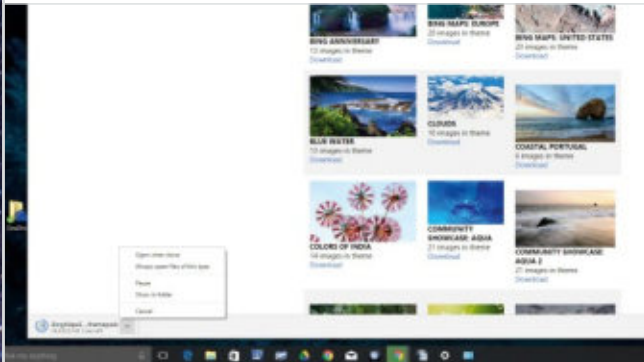


Applying and Modifying Themes

Once themes are downloaded you can view and select them from a single folder in Windows. In this folder view, you can also customise the theme in a few different ways.

Step 1

Once a theme is downloaded, you will need to open it to activate it. You can do this directly from the download interface that appears at the bottom of the browser window, showing download progress, or you can go to your Downloads folder, right-click on the file and click Open.



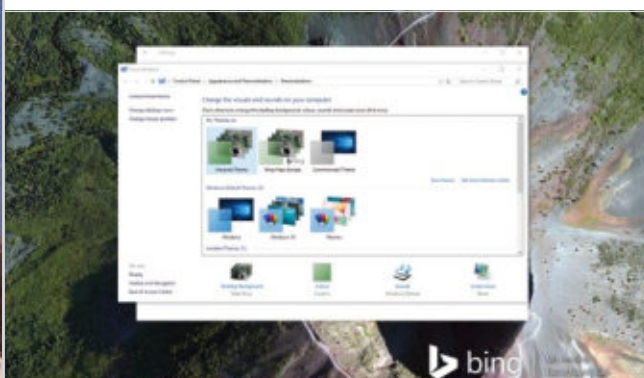
Step 2

The theme will then be applied and the first desktop wallpaper in the sequence will appear on your screen. Any colour profile changes will also be applied. If you want to manage the theme settings, head to Settings > Personalisation > Themes > Theme Settings.



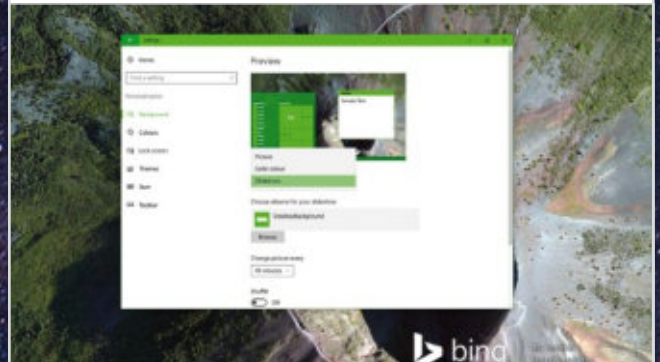
Step 3

You will see your newly applied theme in the My Themes box. Until you apply a theme, it will not appear here, it will just be a theme file in Downloads. Once several themes are shown, you can quickly switch between them simply by clicking on the thumbnails.



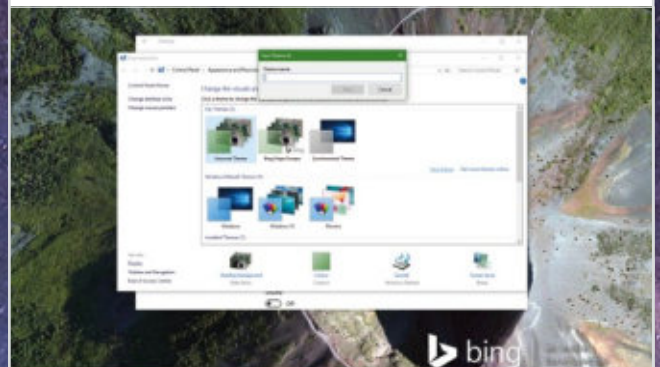
Step 4

You can change the way the background image changes, slideshow, single picture etc. and how often the image changes, by clicking Desktop Background at the bottom of the window. You can change elements of the colour profile that was applied by clicking the Colour option.



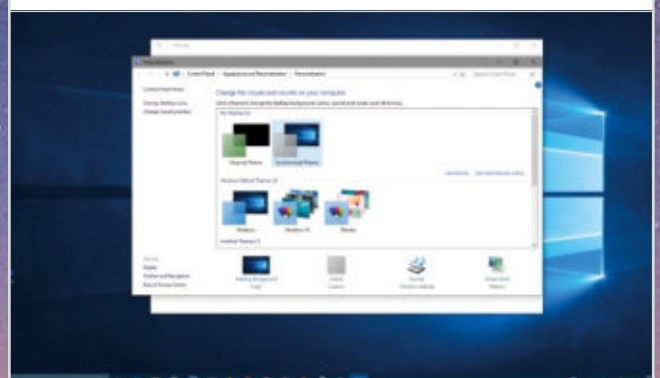
Step 5

Changes you make to a theme package changes it into a custom theme. If you go back into the theme chooser window and click on the theme again, the standard (unedited) theme will be loaded again. If you want to apply the changes to the theme, you need to click Save Theme.



Step 6

Depending on the number of theme images, each of the files can be quite large (6-10MB). If you download themes and then decide you don't like them, you can delete them quite easily by right-clicking on them and selecting Delete but don't forget to delete the file in Downloads too.



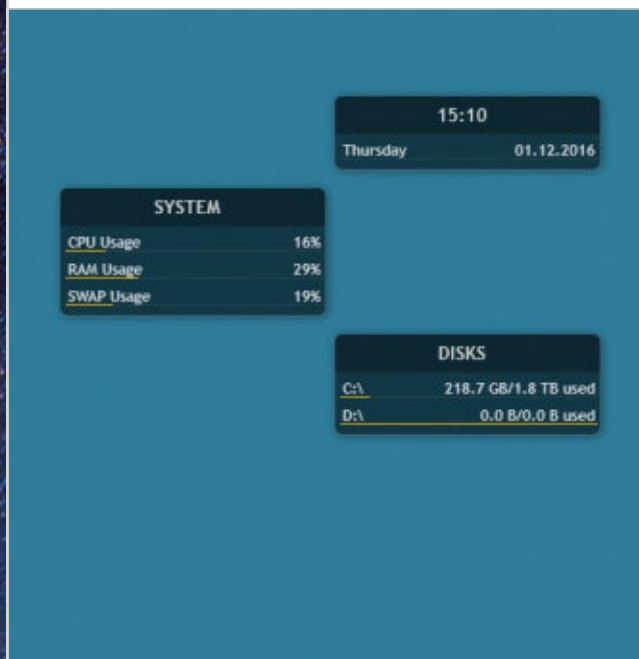
Add Tools to the Desktop

There are lots of customisation options built into the operating system but if you want to take your customisation of the desktop to the next level of functionality, you can begin to add desktop tools such as Rainmeter.

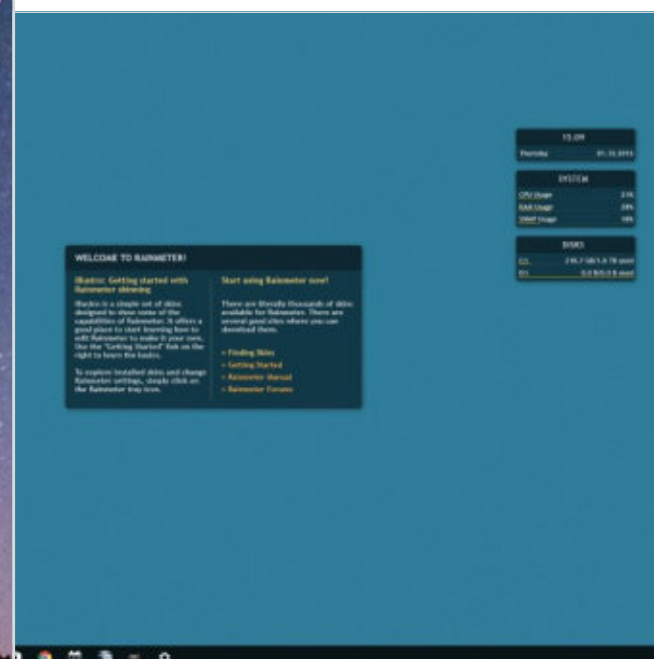
Step 1 Start by downloading the Rainmeter installer from Rainmeter.net. To install the software, run the installer program that you downloaded and follow the instructions. You will have the choice to choose from the 32 or 64 bit versions during the process.



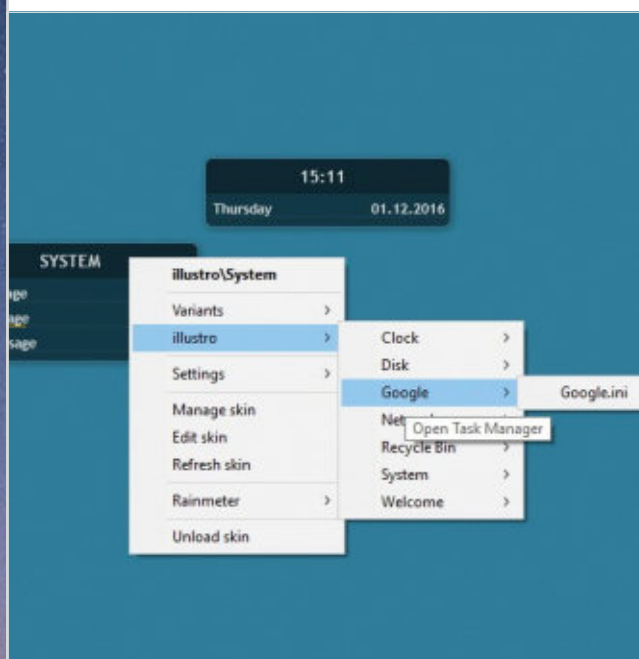
Step 3 To move a skin, just click and drag it to a new location. The easiest way to interact with Rainmeter skins is through the context menu (right-click on the skin). A skin may have any number of tabs, buttons, menus or other bells and whistles in its design.



Step 2 The first time you run Rainmeter, your desktop will look something like the image here. Each small window on the right side of your screen (System, Disk, etc.) is a skin. This is the illustro skin set. The app remembers each skin's location and settings independently.

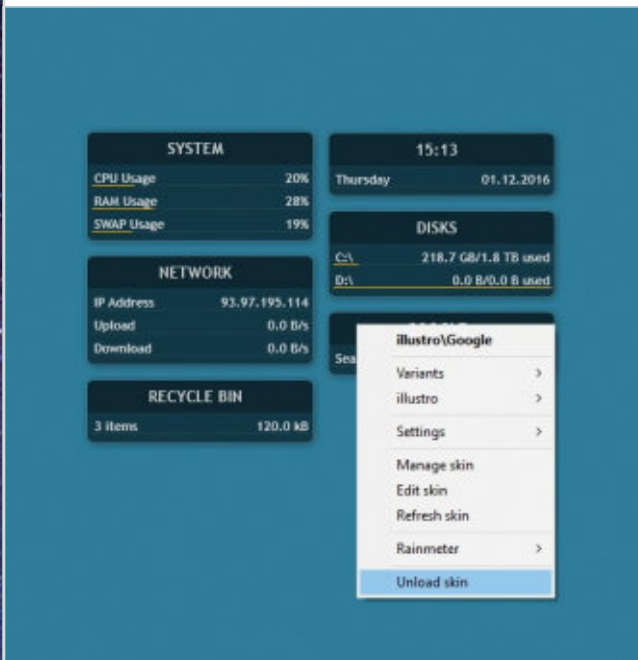


Step 4 You can use the context menu to load skins from your library. Right-click on any of the skins and select illustro > Google > Google.ini. The Google skin will appear in the top left corner of your desktop. You can now drag it into place alongside your other skins.



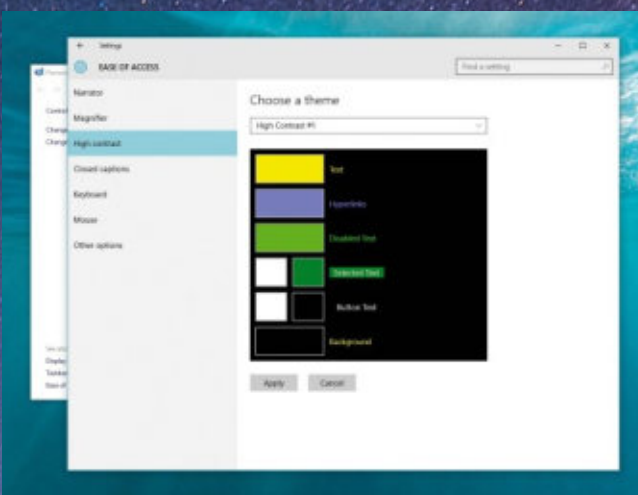
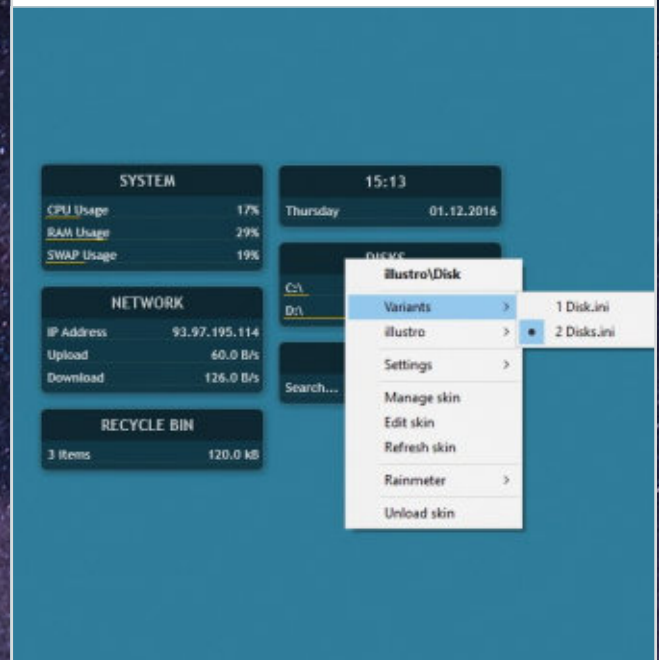
Step 5

You can also unload (remove) a skin with the context menu. Right-click the new Google skin and select Unload skin. You will see the skin fade away and disappear; useful for getting rid of the welcome skin. When a skin is unloaded, its location and settings are still saved.



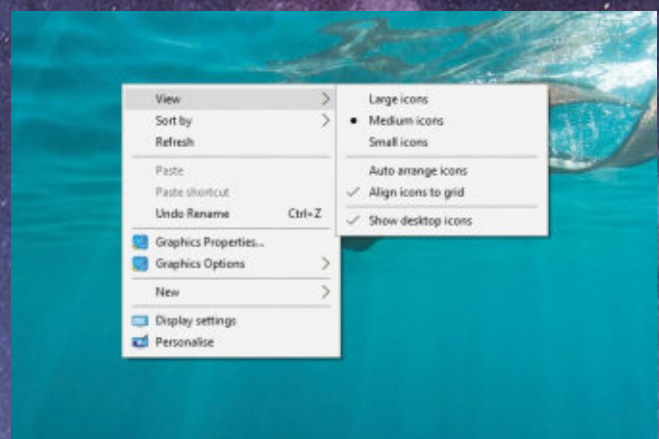
Step 6

Skins can have different variations. To see an example of a skin with variants, right-click the Disk skin and select Variants in the context menu. Variants share the same location and settings, and only one of a skin's variants may be loaded at one time.



IMPROVING VISIBILITY

Windows 10 incorporates a number of features designed to improve accessibility for people with impaired sight, including a range of high contrast Desktop themes. You can activate these from the Personalisation control panel. Activate the panel by right-clicking on the Desktop and selecting Personalisation and then click on one of the high contrast themes presented. You can exit the theme by clicking back on the previous theme.



CUSTOMISING THE DESKTOP VIEW

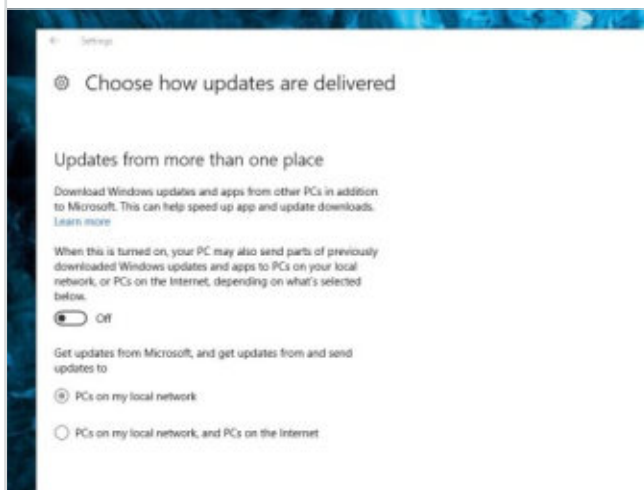
You can make other changes to the Desktop appearance apart from the Personalisation options. You can also change the size of the Desktop icons and the way they are laid out on the screen. Right-click anywhere on the Desktop and in the pop-up menu that appears move your mouse over View. A fly out menu appears with further options, including icon size, the option to align icons to a grid and also auto arrange icons in alphabetical order.

10 Things to Disable in Windows 10

When you install Windows 10 you will possibly activate several features that you won't use or need. Some of these are no real problem but some can mean a reduction in computing speed and a reduction in security, especially if you're not really aware of what is going on in the background.

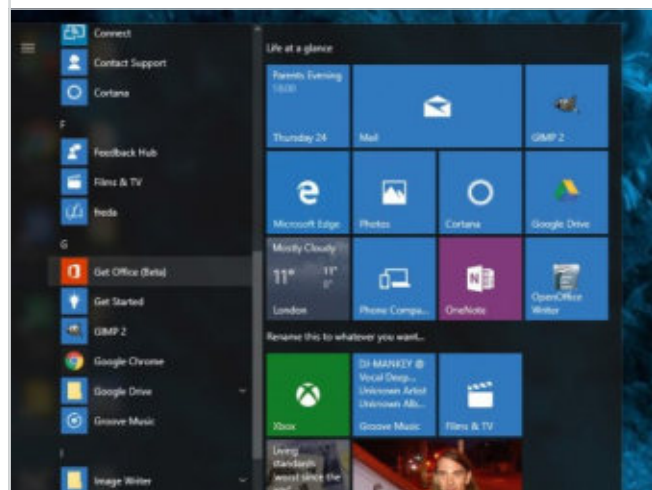
File Sharing Updates

Windows 10 features an improved way to receive updates. More specifically, it allows you to get updates from sources other than Microsoft in a sort of file-sharing network. The catch is that your computer is also sharing files. Turn this off in Settings > Update & Security > Advanced options > Choose how updates are delivered.



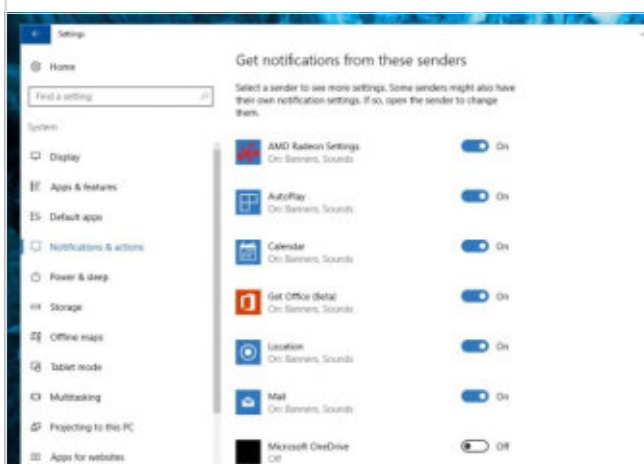
Start Menu Adverts

Part of Microsoft's business model for Windows 10 seems to be selling its apps through the OS. Suggestions for apps you might like will appear in the Start menu and although you can just ignore them, you can also turn them off. Settings > Personalisation > Start > Occasionally show suggestions in Start.



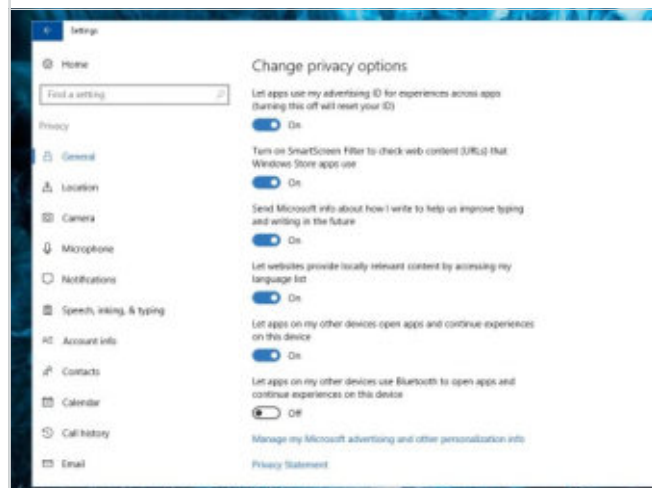
Unwanted Notifications

Notifications are generally, but not always, a good thing. Windows 10 does a good job of letting you know what is going on with your PC but sometimes you can get notification overload. You can turn some of the less useful ones off in Settings > System > Notifications & actions. Turn off things like: Show me tips about Windows.



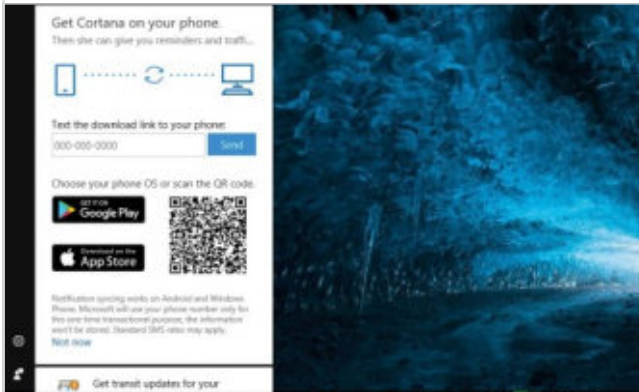
Targeted Adverts

Every Microsoft account now has an advertiser ID tied to it, allowing Microsoft and third-party partners to deliver targeted adverts. You can turn this information sharing off by going to Settings > Privacy > General > Let my apps use my advertising ID for experiences across apps (turning this off will reset your ID).



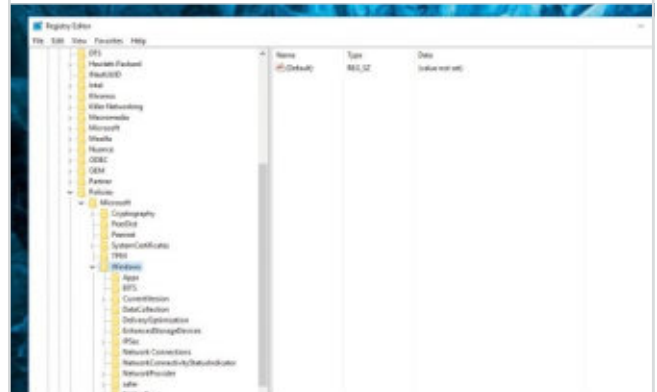
Getting to Know You

To better answer your queries, Cortana is constantly learning about you in a process called Getting to Know You. This includes typing history and speech patterns. If you find this invasion of privacy a little creepy, you can turn it off in Settings > Privacy > Speech, inking & typing, and clicking Stop getting to know me.



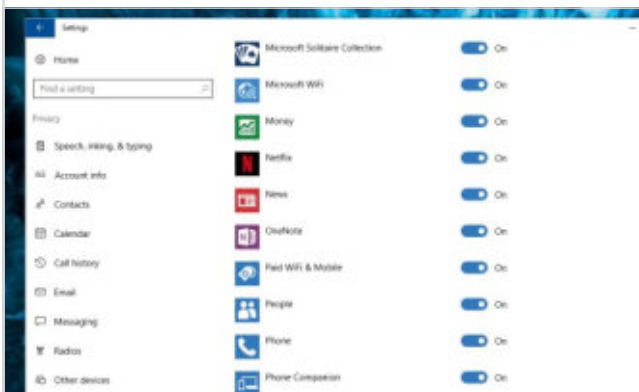
The Lock Screen

The lock screen in Windows 10 can be a useful feature but it can also just slow you down. You can disable the Lock Screen but only by delving into the Windows Registry. You can read more about disabling the lock screen in our Lock Screen Tips and Tricks guide. To access the registry, press the Windows key + R and enter 'regedit'.



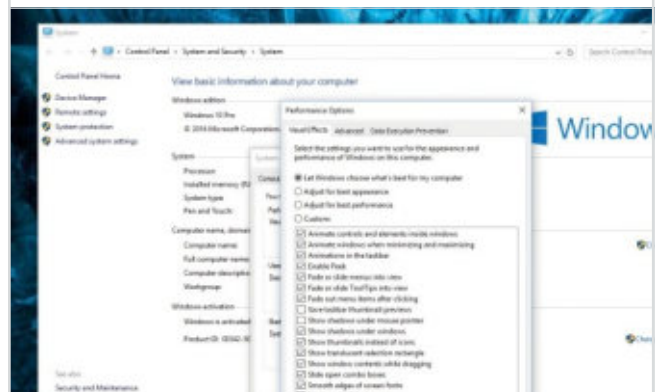
Background Apps

In Windows 10 many apps will run in the background. These apps can receive information, send notifications, download and install updates and otherwise eat up your bandwidth and your battery life. You can, however, disable this feature in Settings > Privacy > Background apps. You can turn off each app individually.



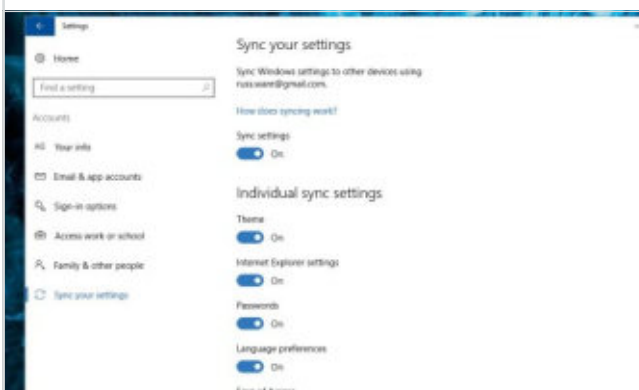
The Visual Interface

The visual effects in Windows 10 go a long way towards making the OS look modern and smooth. However, every pretty visual element has an effect on the running of your computer. Right-click the Start button and go in to System > Advanced system settings. Under the Advanced tab, go to Performance and click Settings.



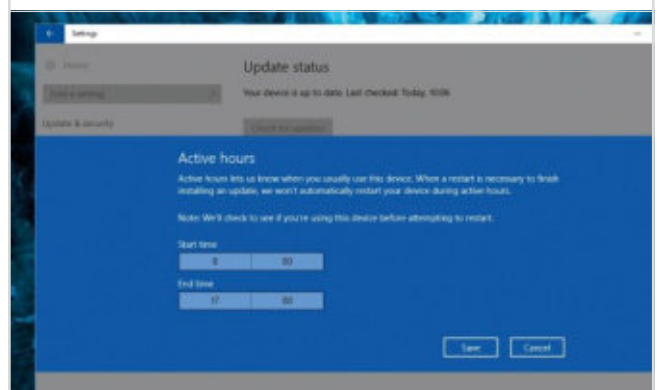
Windows 10 Syncing

Windows 10, upon the default install, does a lot of syncing with your other Windows devices. If you use several different Microsoft devices and don't want everything shared between them, you can disable syncing in Settings > Accounts > Sync your settings. You can selectively turn off specific sync settings.



Automatic Updates

Windows 10 will download and install updates automatically and you can't really turn them off; but you can choose to stop the updates happening whilst you are using your computer. Head into Settings > Update & Security and click on Change Active Hours. You can then set a time frame in which updates won't happen.



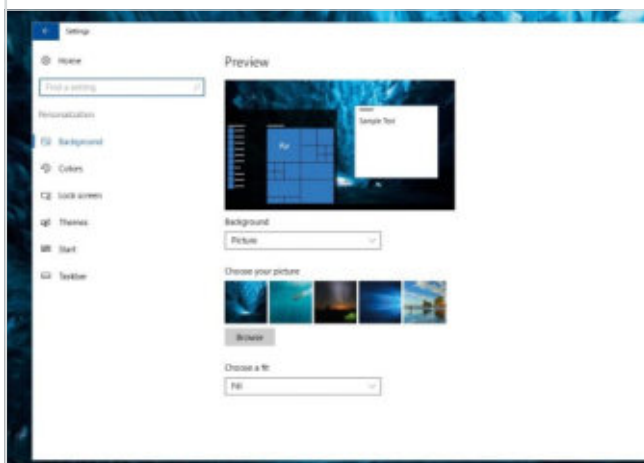
Lock Screen Tips and Tricks

The lock screen is more than just a pretty holding screen to display until you log in. It can feature custom backgrounds with Spotlight Images, display app statuses and can even give you direct access to Cortana. Here's how you can make the most of the Windows 10 lock screen.

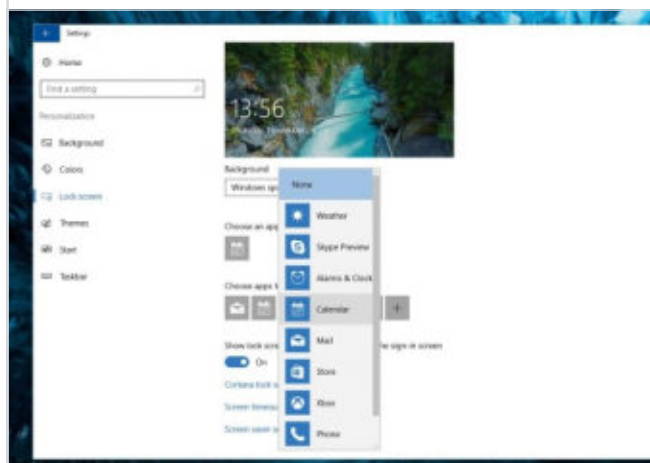
Display App Statuses

You can choose to display information on the lock screen from a number of different Microsoft and third-party apps. As the feature matures, more and more app developers will take advantage of it in their software.

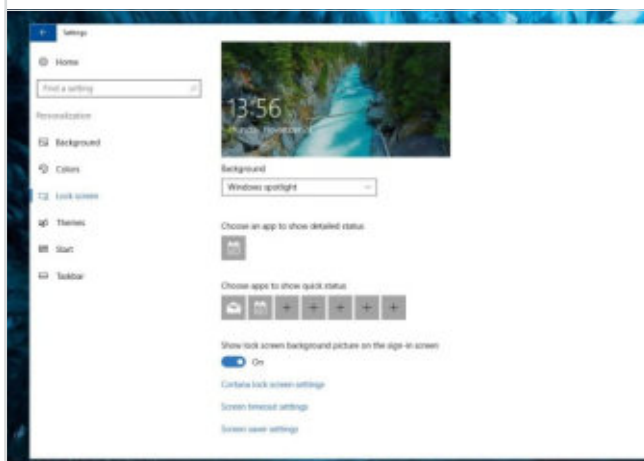
Step 1 Open the settings app by tapping the Windows key or clicking the Windows icon on screen and then clicking the settings icon. Head into the Personalisation > Lock Screen section and you will see a set of boxes which may either be blank or displaying various app icons.



Step 3 You can add as many apps as you wish here, up to the maximum of eight. To choose which apps have statuses displayed, click on one of the spaces and choose from the pop-up menu that appears. The menu for the detailed information space will be slightly shorter than for quick statuses.



Step 2 You will see that there are two separate sections for adding apps here. The section with the single app icon is the one which will display more detailed information and the section with seven icons/spaces for adding apps which will show quick statuses.



Step 4 You can check how the detailed and quick statuses are displayed on your lock screen by letting your PC sleep or by clicking the Windows key and choosing Sleep. Be aware, however that statuses may not show up straight away for things like Messages and Email.

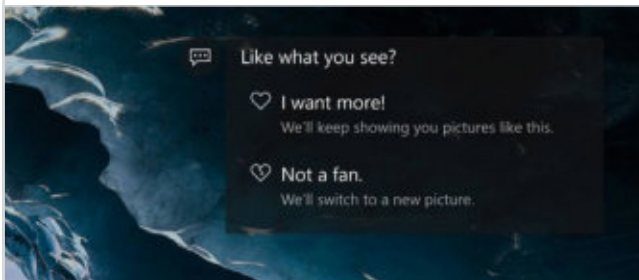


More Lock Screen Tricks

The lock screen doesn't have to be just that nice image you see for a few seconds before you log in to your Windows 10 account. Let's take a look at a few more lock screen tricks.

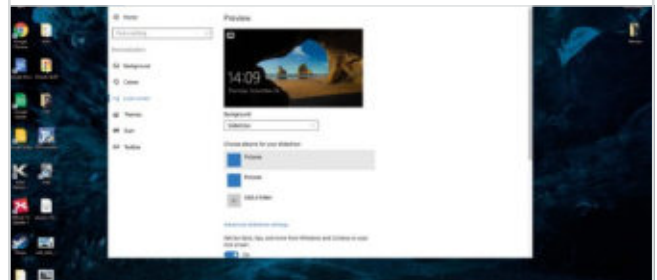
Vote on Spotlight Images

There are three background display options for the lock screen: Spotlight, Picture and Slideshow. If you choose Spotlight, Microsoft will automatically choose an image to use as the background. You can vote on each image to improve or reduce the chance of similar images being displayed.



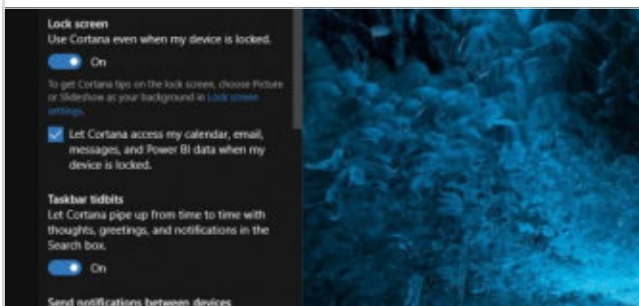
Lock Screen Slideshow

If you prefer to have your own selection of images displayed on the lock screen, you can select Slideshow instead of Picture or Windows Spotlight. Once you have selected Slideshow, a new set of options appears, allowing you to choose the folder where your images are stored.



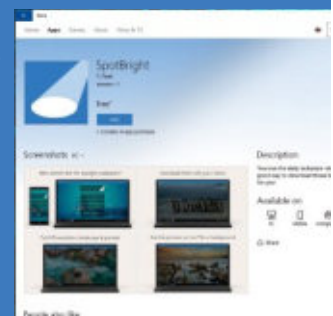
Access Cortana

If you have updated to the Anniversary version of Windows 10, and you have a microphone attached, you can access Cortana from the lock screen. You need to enable the feature in the Cortana settings and then simply say "Hey Cortana" whilst on the lock screen.



DOWNLOADING SPOTLIGHT IMAGES

There is no way, within Windows itself, to download the images that Spotlight displays on the lock screen but if you want to save any of the images you have seen, you can with a simple, free app. Download SpotBright from the Microsoft Store and then scan for and download those amazing pics.

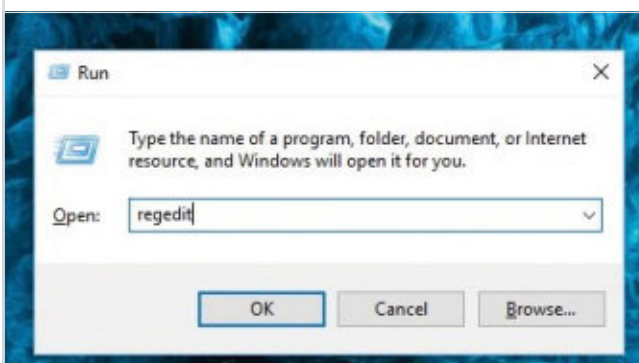


Disable the Lock Screen

There is no setting to disable the lock screen completely but it is still possible to do by delving into the Registry. The Registry can be a daunting place to visit but as long as you are careful, it is safe enough.

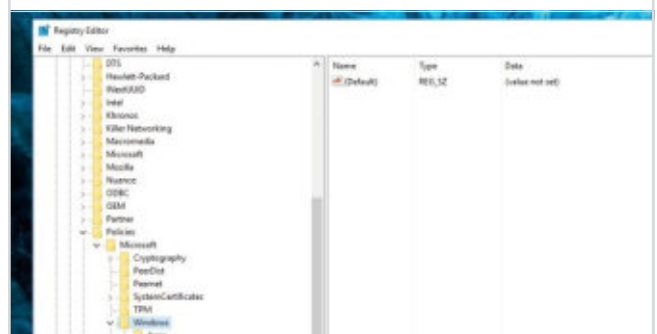
Step 1

To access the Registry, press the Windows key + R, enter "regedit" and then click OK. With the Registry open, navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\. Right-click the final Windows folder and click New > Key.



Step 2

Name this new key Personalisation and then navigate inside it. Right-click inside the right-hand pane and select New > DWORD (32-bit) Value. Name it "NoLockScreen". Then double click this new value and change the Value data to 1. Then click OK and exit the Registry Editor.



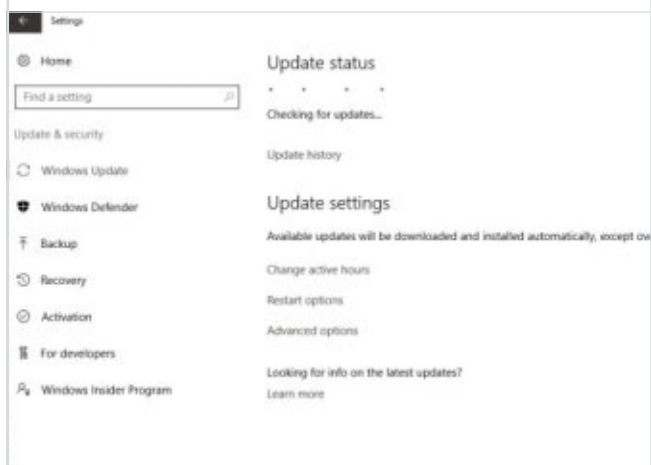
Creating Web Apps

Modern browsers allow you to create web apps, give them their own place on your taskbar and even run offline and in the background. Chrome is one such browser, letting users create web apps that can replace desktop apps for everything from email to playing videos.

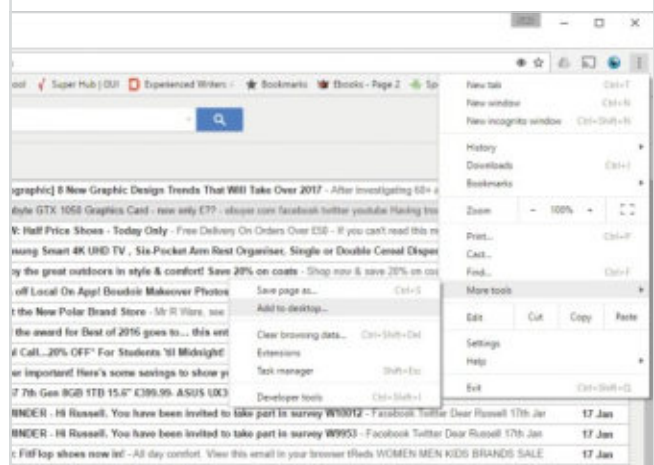
Chrome Web Apps

Chrome isn't the only browser that lets you create Web Apps for use in Windows 10 but it is the one that offers the best results in most cases. It is worth remembering that not all sites make for good apps.

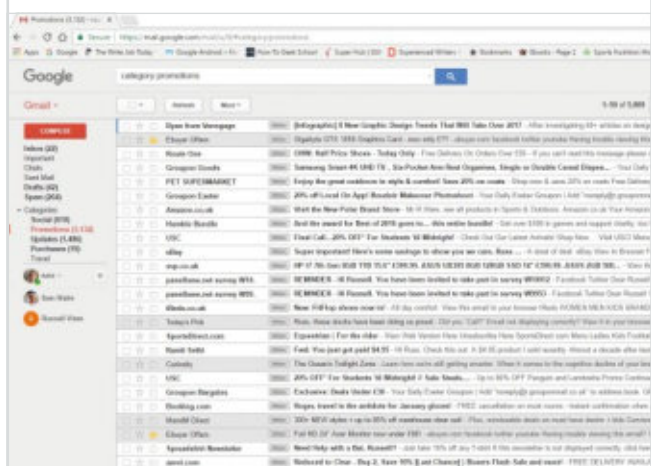
- Step 1** Your first steps should be to install Chrome (if not already done) and make sure that it is fully updated. Check your copy of Windows 10 is also up to date. You then need to choose a website to turn into a Web App. You can choose any website but some work better as an app than others.



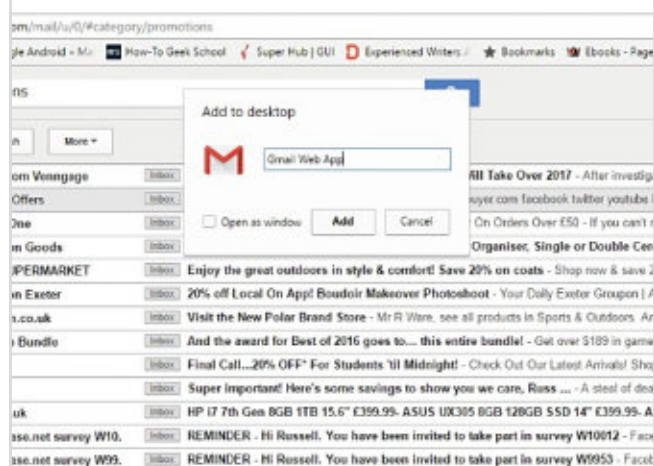
- Step 3** Once you have the website that you wish to turn into an app open in your Chrome browser, click on the fly out menu in the top right hand corner of the browser; that's the three horizontal lines icon. From the drop-down menu, choose More Tools > Add to Desktop.



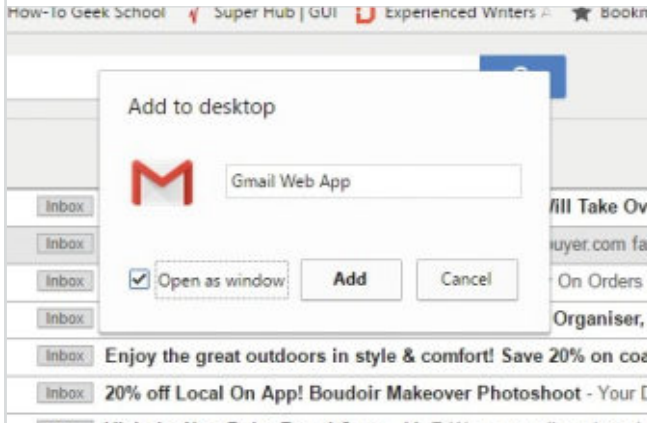
- Step 2** Websites that work well as a Web App include but are not limited to: Gmail, Facebook, Google Hangouts, YouTube, Twitter and Google News. For this guide, we will use both Gmail and Facebook but feel free to experiment with your most used sites.



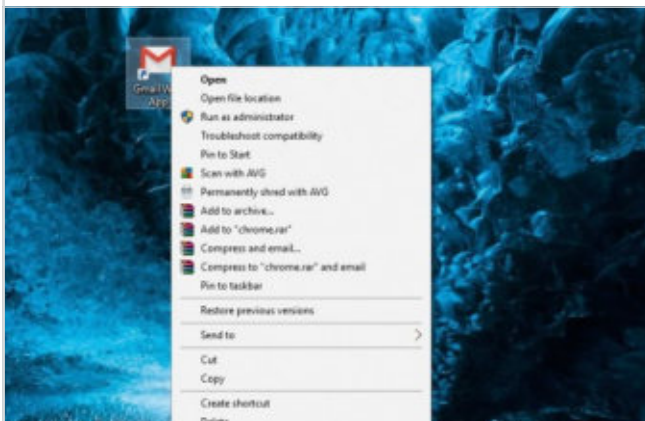
- Step 4** Previously, you could add the site directly to the taskbar but Chrome now makes you add it to the Desktop first. You can rename your Web App link here, although sticking to the original name is usually less confusing. Some websites won't auto fill the name field, so be sure to check.



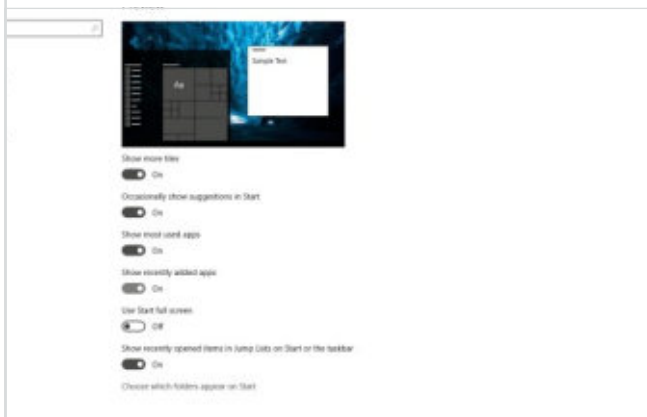
Step 5 The most important part of this process is to check the box below the icon and title labelled as 'Open as window'. If you don't do this, you will simply create a browser shortcut to the site, rather than a proper Web App. With the checkbox filled, click Add to finish this step.



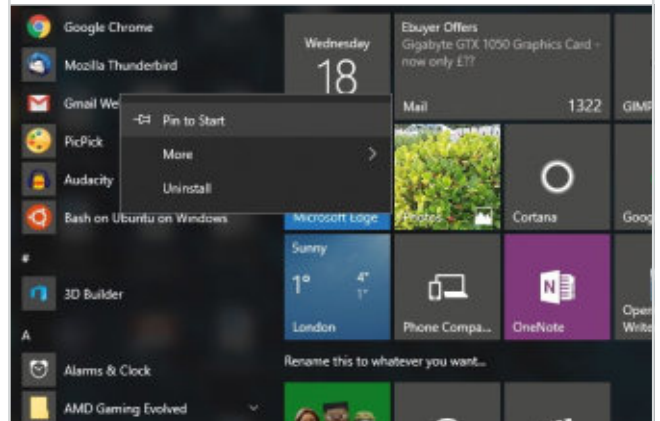
Step 6 The shortcut to the Web App will now be on your desktop. To add it to your taskbar, do so in the normal way. If your memory needs jogging, you do this by right-clicking and selecting 'Pin to taskbar' from the contextual menu. You can then delete the desktop icon.



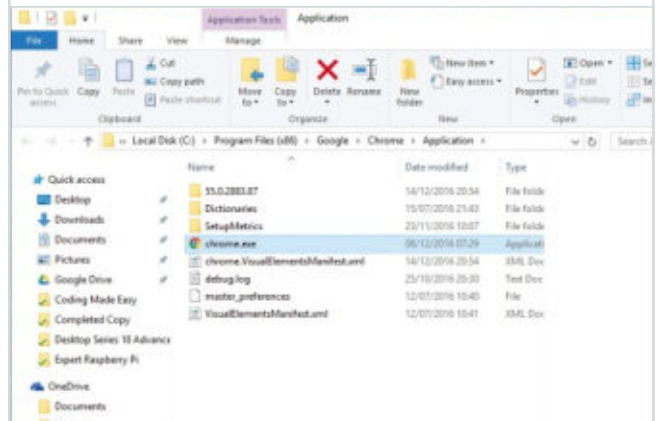
Step 7 The app will also now appear in your main app list in the Start menu; but for it to do so, you need to enable Recently added in the Start menu. This can be done in your Windows settings > Personalisation > Start > Show recently added apps > On.



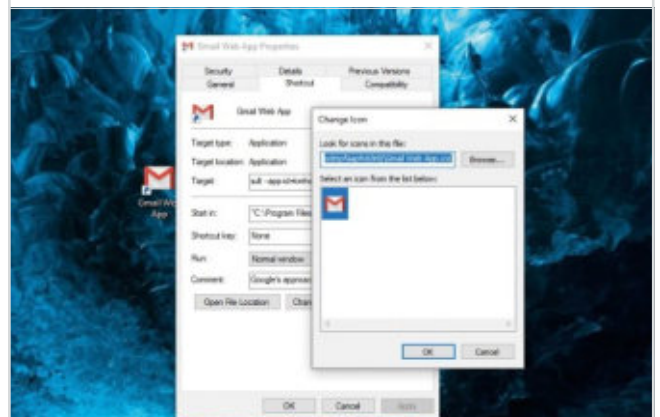
Step 8 You can then easily right-click the app in the Recently Added menu and add it as a tile to the main Start menu panel. You might want to do this after creating each Web App, as Windows 10 only allows you to have one app in the Recent menu at one time.



Step 9 If you lose track of your Web Apps, you can view them in the following location in Windows Explorer: C:\Users\[Your User Name]\AppData\Roaming\Microsoft\Windows\Startmenu\Programs\Chrome Apps; or right-click on a web app in your Start menu and 'Open file location'.



Step 10 Finally, go to the location of the apps in Windows Explorer and right-click on the one you want to change. Choose Properties right at the very bottom, and choose the Shortcut tab. The Change Icon button is here, as well as the option to add a shortcut key to open the Web App instantly.



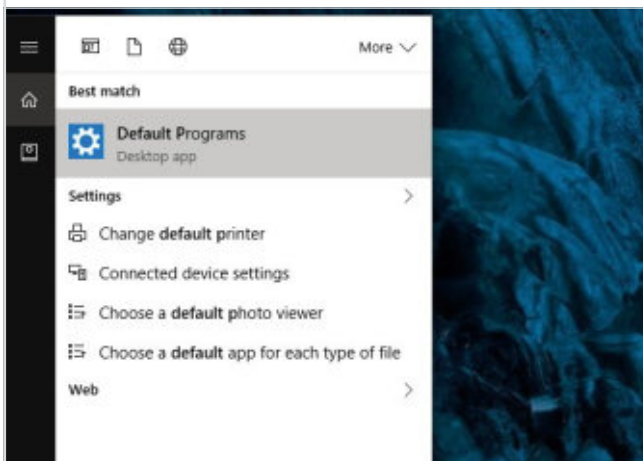
Changing File Associations and Protocols

Windows 10 comes with its own default set of associations that open specific file types. A file association controls which apps or programs are set to open which types of files. If you're not happy with the default associations and want to choose your own, it's easy to do.

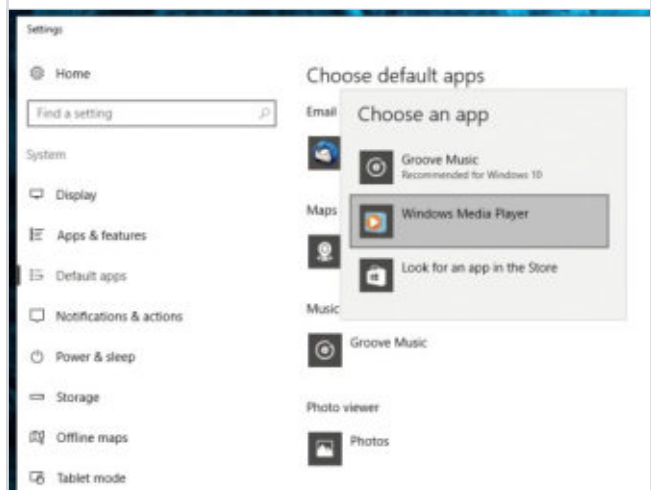
Default Programs and Protocols

The ability to change the default apps and programs that Windows 10 uses goes a long way to helping you take full control of your PC and the system software.

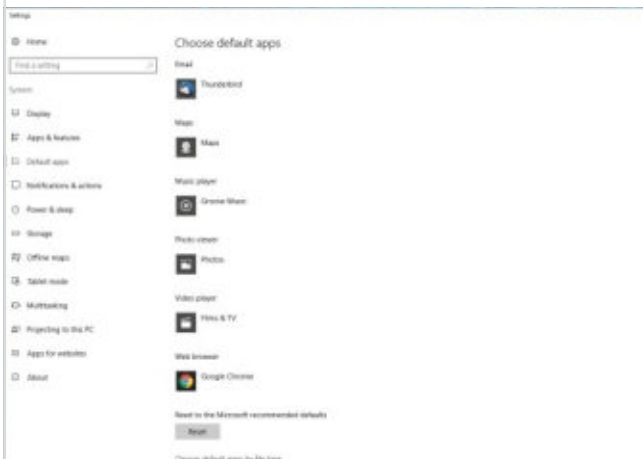
Step 1 Click on the search bar on the left of the taskbar and type "default programs". You can also navigate to this settings tool by opening the All Apps list, scrolling down to W and clicking Windows System > Default Programs. Either way, open the tool on screen.



Step 3 Below the description, you will see two options: Set this program as default and Choose defaults for this program. The amount of default file associations is also shown. Click 'Set this program as default' first.



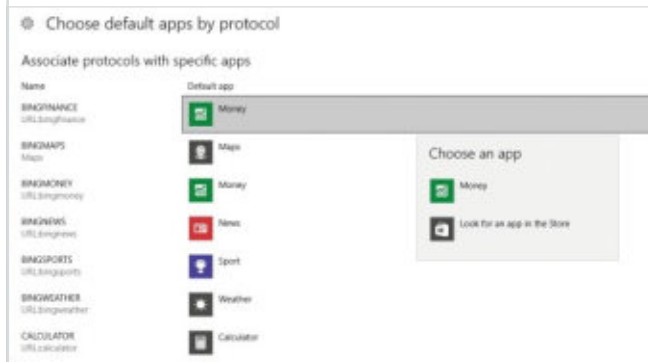
Step 2 A list of apps already associated with various functions will appear. Click on any of these to see alternative options. The options shown will vary depending on the apps you have installed at this time. If a function has no apps associated with it, you can click 'Look for app in the Store'.



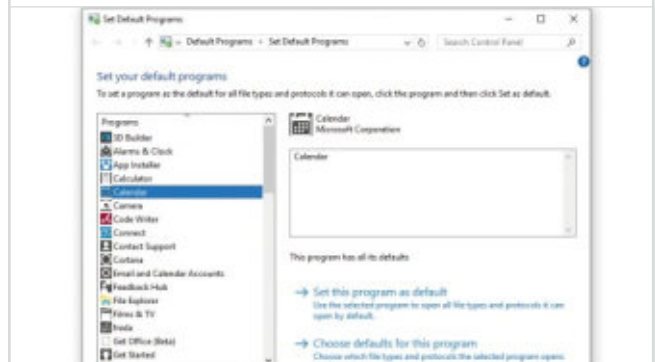
Step 4 Next, click on the 'Choose default apps by file type' option to see a list of all the file types that can be associated with your currently installed apps. These are the types of files which will automatically open in that app when clicked. Anywhere a + is shown, is without a default app.



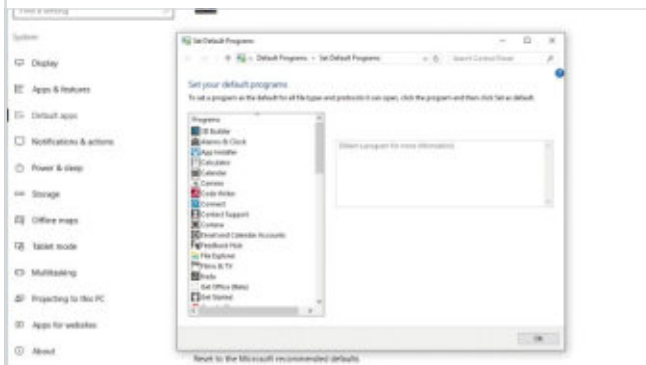
Step 5 You can also choose default apps based on protocols. This generally means that typing or accessing a certain URL will trigger the app to open, rather than a webpage. For example, if MAILTO is detected by the browser, our default email client (Thunderbird) will launch to handle the request.



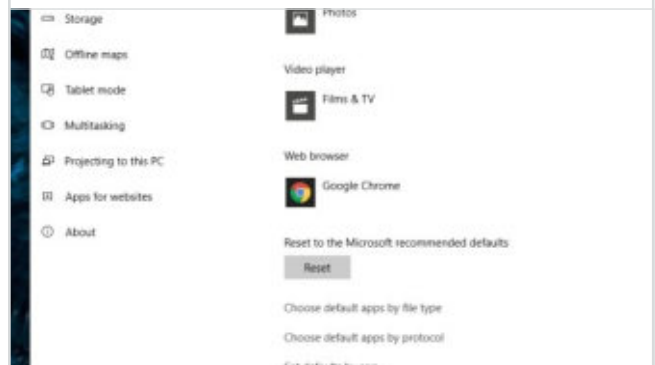
Step 7 You now have two options: Setting the app as default for any and all files or protocols it can open, or choosing individual defaults the app will use. Clicking the first results in an instant change, clicking the second will show you a list of current defaults for that app, allowing you to choose.



Step 6 Finally, you have the ability to set defaults by app, rather than choosing apps to go with certain files or actions. Click 'Set defaults by app' at the bottom of the screen. A new window will open, displaying a list of apps on the left. Click on any app you want to change the defaults for.



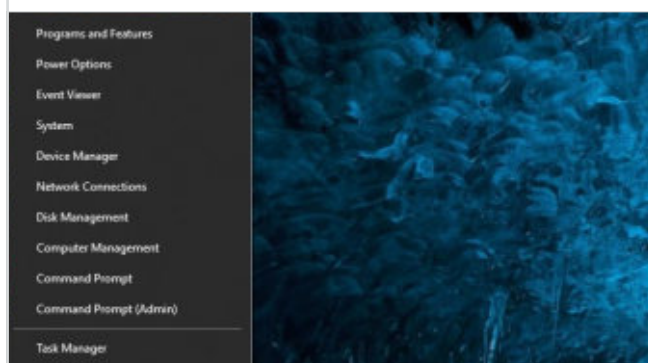
Step 8 If you run into problems after changing protocols and defaults, you can easily reset to the Microsoft recommended defaults with a click of the button on the Default Programs screen. This may mean that you have to go back through your list and change some settings but it can be a useful fix.



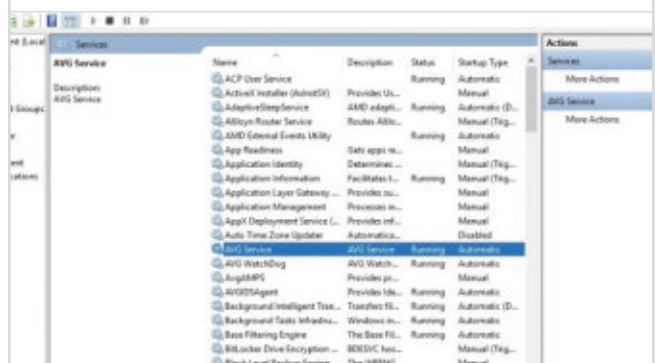
Running Services

Being able to check which Windows Services are running at any particular time is also a useful option, as it can help to diagnose performance or stability issues

Step 1 The easiest way to get to the Services panel is by going through the Power User menu. Right-click on the Start menu button on the far left of the taskbar and select 'Computer Management' from the menu that pops up; this is the Power User or Win-X menu.



Step 2 Click the 'Services and Applications' option in the left-hand panel of the window that opens. Then click 'Services' to show the full list. The list will be large but not all services will be running at any one time. Click on any to see more details, including management option, for that service.



Disable Adverts and Annoyances

Windows 10 has a lot of built-in advertising. This is part of the business model and is to be expected in some respects. That doesn't stop them being really annoying at times. Thankfully, if you know what you are doing, you can disable most of the advertising that Windows tries to slip in front of you.

Disabling Annoyances

Windows 10 is pretty good at putting adverts in front of you and certainly, some of the adverts may not even seem like adverts until you start to take notice of them.

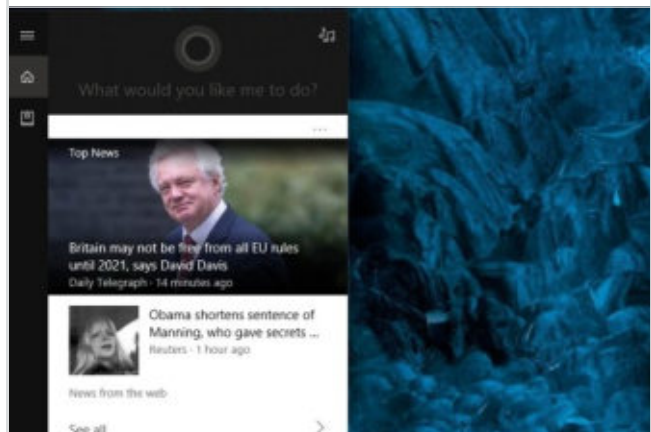
Lock Screen Ads

Shortly after you enable Windows Spotlight for the lock screen, you will soon start to see the occasional advert for games like Tomb Raider appear among the pretty images. To disable the adverts, simply switch to the Picture or Slideshow options in the Personalisation settings.



Get Rid of Fun Facts

Although Cortana will occasionally provide you with an interesting fact when you click the search bar; often they are interspersed with adverts too. You can disable 'Get fun facts, tips, and more from Windows and Cortana on your lock screen' in Settings > Personalisation > Lock Screen.



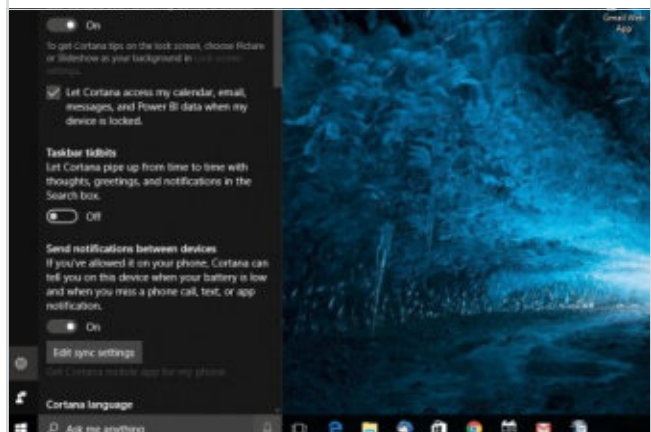
Suggested Apps

Windows 10 will occasionally show suggested apps in your Start menu. Sometimes these are free apps but often they are paid apps and games. Essentially, these are adverts. Head to Settings > Personalisation > Start and set the 'Occasionally show suggestions in Start' setting to Off.



Calm Cortana Down

Following on from the previous tip, you can also stop Cortana from doing that annoying thing when it bounces around in the taskbar to get your attention. If you don't want Cortana nagging you, click the Cortana search bar, click Settings, scroll down and disable the 'taskbar Tidbits' option.



Microsoft Tips

Okay, so this might be classed as borderline as far as it being advertising but if you are fed up of being advised to 'Use Edge to save battery life', head to Settings > System > Notifications & Actions and disable the 'Get tips, tricks and suggestions as you use Windows' option.

Notifications

Get notifications from apps and other senders

☒ On

Show notifications on the lock screen

☒ On

Show alarms, reminders, and incoming VoIP calls on the lock screen

☒ On

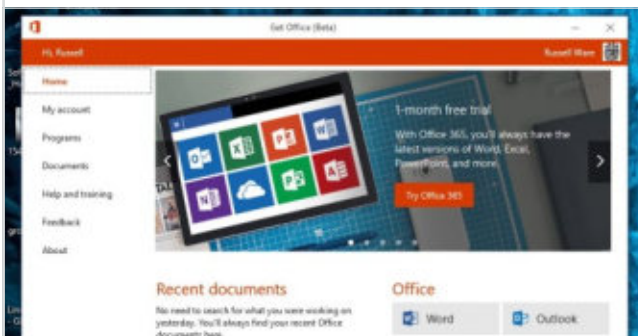
Hide notifications when I'm duplicating my screen

☐ Off

Get tips, tricks, and suggestions as you use Windows

Get Office Notifications

Windows 10 includes a 'Get Office' app that sits there, suggesting you download the software for a free trial period. Head to Settings > System > Notifications & Actions, scroll down and turn it off. You could also find the Get Office app in your Start menu, right-click it, and select 'Uninstall'.



Disable Live Tiles

While you can remove the apps that are installed as part of the Microsoft Consumer Experience program, Windows 10 also includes a few apps you can't uninstall but will use the Live Tiles to advertise. To disable live tiles that annoy you, right-click a tile and select More > Turn live tile off.



Unpinning Windows Apps

Rather than turning live tiles off, you can simply unpin the tile from the Start menu. Right-click a tile and select 'Unpin from Start' to get rid of the tile entirely. If you prefer a less cluttered Start menu, you can even choose to unpin all the tiles and only use the All Apps list to launch apps.



AD BLOCKING SOFTWARE

The tips above will allow you to block many of the adverts Microsoft has added to the Windows 10 interface but what about the adverts you see on your favourite websites. Unfortunately, there isn't a Windows 10 setting to turn these off, but there is bit of software that can help.

AdBlock, The No.1 ad blocker with over 200 million downloads, blocks YouTube, Facebook ads and others in most places on the web. AdBlock works automatically but lets you choose to continue seeing unobtrusive ads, white-list your favourite sites or block all ads by default.

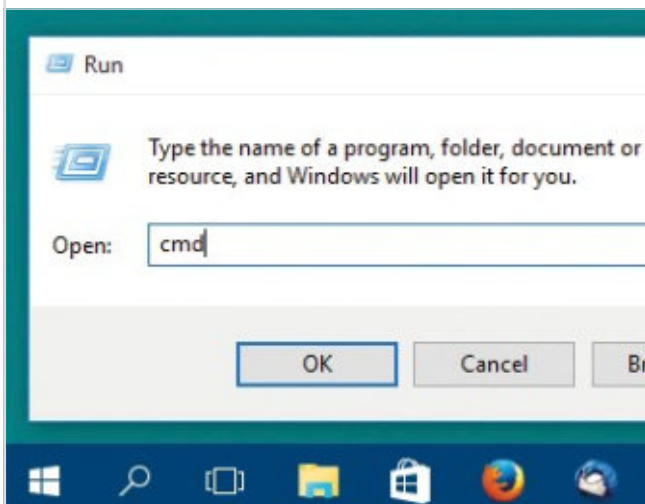
Customise the Command Console Screen

The Command Console is an advanced interface that lets you access the operating system directly via command line instructions. It predates Windows and has remained virtually unchanged for decades; with Windows 10 it finally gets some useful new features.

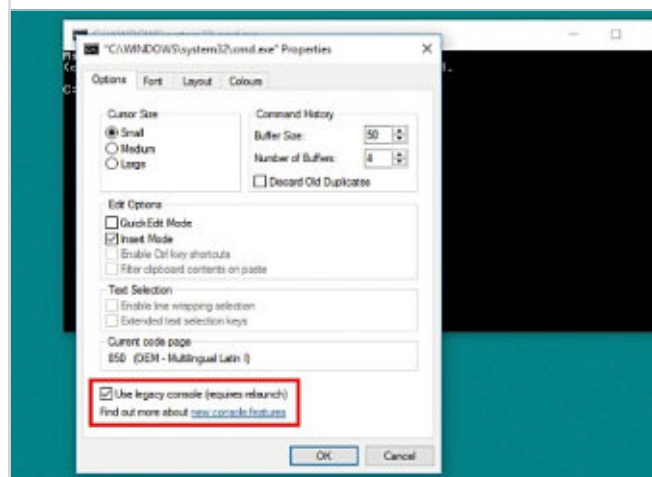
Enabling the New Console Features

By default the Command Console interface is unchanged from earlier versions, so to use the new features, first you'll have to activate them; this only takes a few minutes.

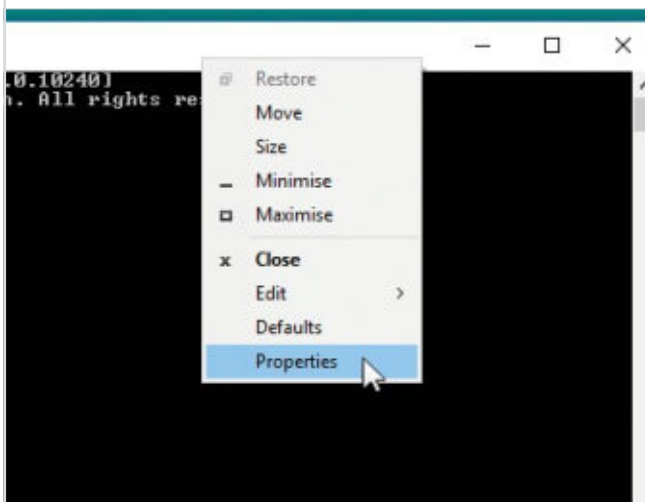
- Step 1** To get started, first you'll need to open the Command Console. Right-click on the Start button and select "Run", then type "cmd" and click OK.



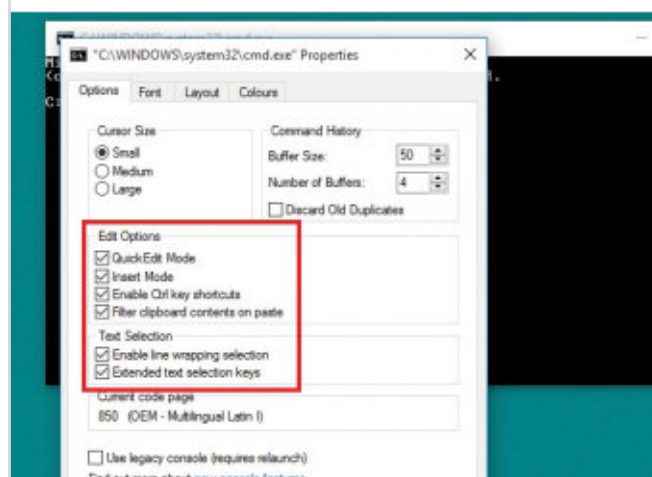
- Step 3** In the Options tab of the Properties window, at the bottom of the window you'll see a check box labelled "Use legacy console (requires relaunch)". Uncheck this box by clicking on it.



- Step 2** The console interface window will open. By default it's a black screen with grey text. Right-click on the title bar of the window and select Properties.



- Step 4** Once you uncheck this box, previously greyed out new options become available, so check the new boxes. These include advanced text selection features and the ability to customise fonts and colours.



Edit Options and Text Selection Features

Enabling the new Edit Options and Text Selection lets you select and edit text in the console window, just as you do in a word processor. This makes using the Command Console much easier.

You can now edit, copy and paste text in the Command Prompt window, using text editing features and keyboard shortcuts just like those of a word processor. Use the mouse or cursor control arrow keys to move the cursor, and the Shift and Ctrl keys along with the cursor control arrows and other keys to make and expand your text selection. If you use the console regularly you'll find that these new features will be a boon.

Shift + Left Arrow: Move the cursor to the left one character, extending the selection.

Shift + Right Arrow: Move the cursor to the right one character, extending the selection.

Shift + Up Arrow: Selects text line by line up from the insertion point.

Shift + Down Arrow: Selects text line by line down from the insertion point.

Shift + End: Extends the selection from the cursor position to the last character in the input line. Use it a second time to extend the selection to the right margin.

Shift + Home: Extends the selection to the character immediately after the command prompt. Use it a second time to extend the selection to the

right margin.

Shift + Page Down: Extends the selection down one screen.

Shift + Page Up: Extends the selection up one screen.

Ctrl + Shift + Right Arrow: Extends the selection one word to the right.

Ctrl + Shift + Home: Extends the selection one word to the left.

Ctrl + Shift + End: Extends the selection to the beginning of the screen buffer.

Ctrl + A: Selects all text after the prompt.

Ctrl + C: Copies selected text to the clipboard.

Ctrl + V: Pastes the contents of the clipboard at the current cursor position.

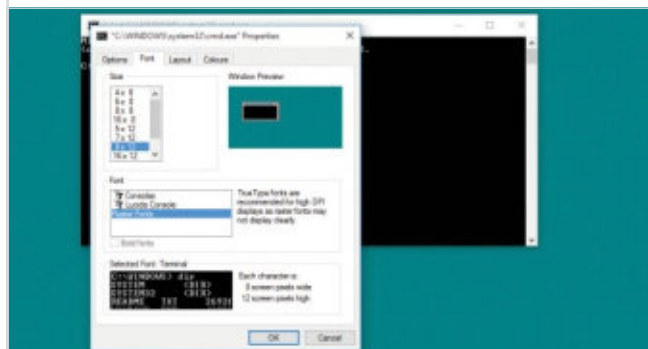
Font Options

If you want to, you can change the font size and style in the console window, including using a couple of True Type fonts.

By default the Windows 10 Console uses the same 8x12-pixel raster font that it's always used, with white text on a black background. While this is fine for everyday use, the font can be hard to read on large monitors or projectors. For these situations it can be helpful to change to a larger, sharper font.

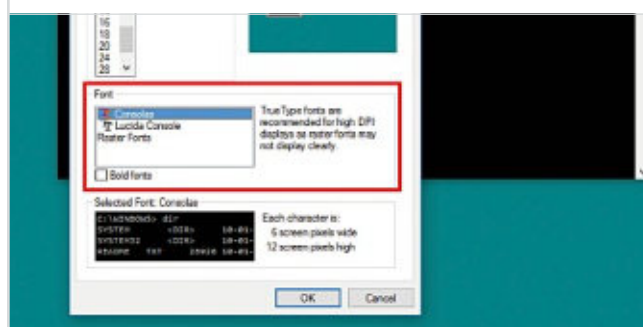
Step 1

The Command Console customisation options are easily accessible and equally easy to use. Open the Command Console options by right-clicking on the console window title bar, select Properties and click on the Font tab.



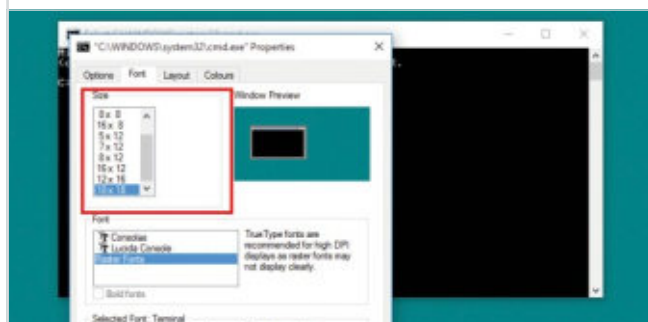
Step 3

If you're tired of the ugly system font, you'll be happy to learn that there are two True Type fonts available, Consolas and Lucida Console. To select one of these, click on it in the Font list. You can select bold type by clicking the check box below the list panel.



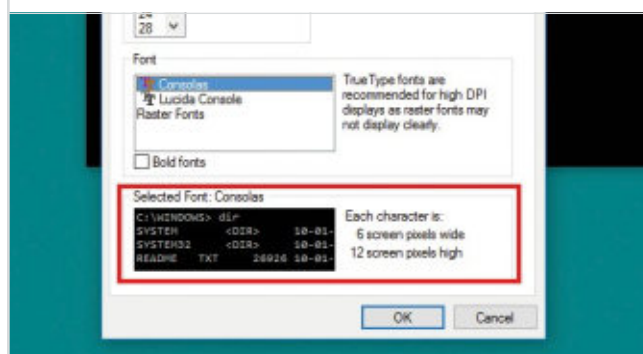
Step 2

The Command Console font hasn't changed in years, until now. To simply change the font size of the standard raster font from the default 8x12, select a different size from the list at the top of the window. You'll see a preview of its appearance in the panel below.



Step 4

Whatever changes you make to the appearance of the font and background colours, you'll see a preview of the size and colour of the selected font described in text next to the preview panel at the bottom of the window.



Layout Options

The size and layout of the Command Console window is a hangover from the days of monochrome text only monitors. In Windows 10 you can change that.

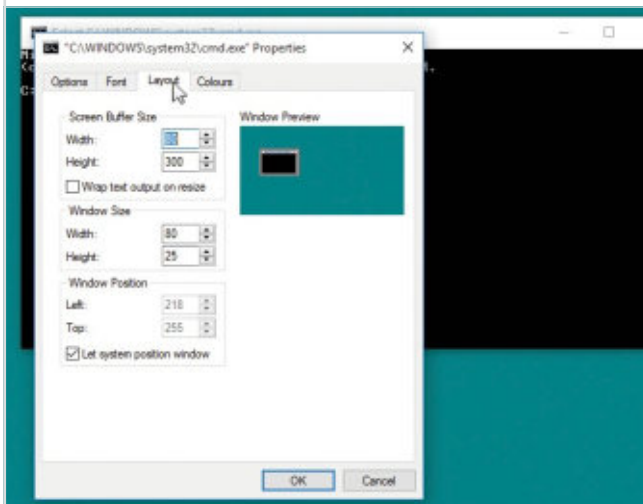
While the appearance of the Windows desktop environment has seen many changes and improvements over the years as graphics and display technologies have improved, the Command Console has remained unchanged, like a fossil embedded in the core of the Windows operating system.

The Command Console is the last remnant of the pre-Windows Microsoft operating system MS-DOS, which was used on IBM compatible home and office computers from the early 1980s until the mid 1990s. MS-DOS used typed lines of commands to access drives, list directories, run software and perform other operations. It was very complicated, relying on the user knowing and remembering a long list of commands to do anything at all. It wasn't until Windows replaced it with the now familiar graphical mouse

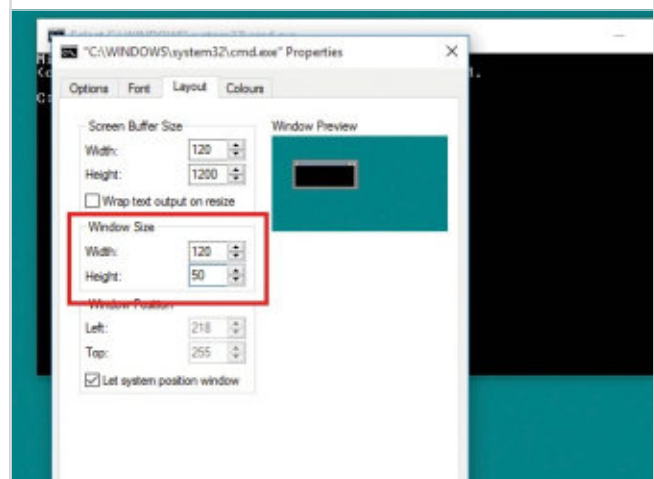
based interface that home computers became accessible to those without advanced degrees in computer science.

The Command Console's tiny default size reflects the size of monitor screens from the late 1980s, when its 80 x 25 character format would have filled most of the screen and its ugly raster font is a hangover from the days of green monochrome CRT monitors. While some people may like the retro 1980s look of the Command Console, its limited size and tiny text buffer can make extended use during debugging or advanced driver installation very awkward. Now you can increase not only the on-screen size of the window, you can also increase the size of the text buffer, so you can more clearly see what you've done in previous lines.

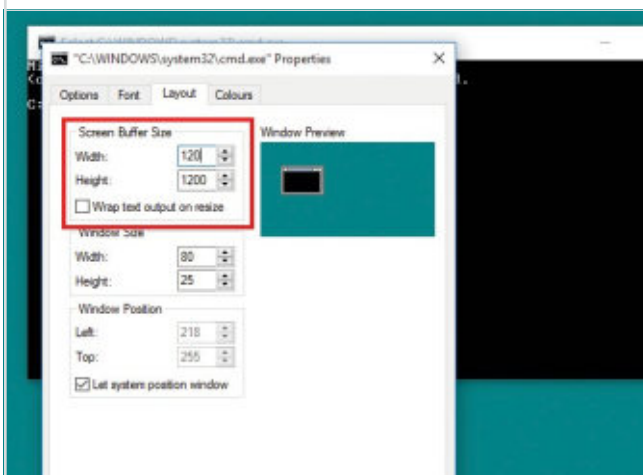
Step 1 As before, open the Command Console, right-click on the title bar of the window and select Properties. Click on the Layout tab.



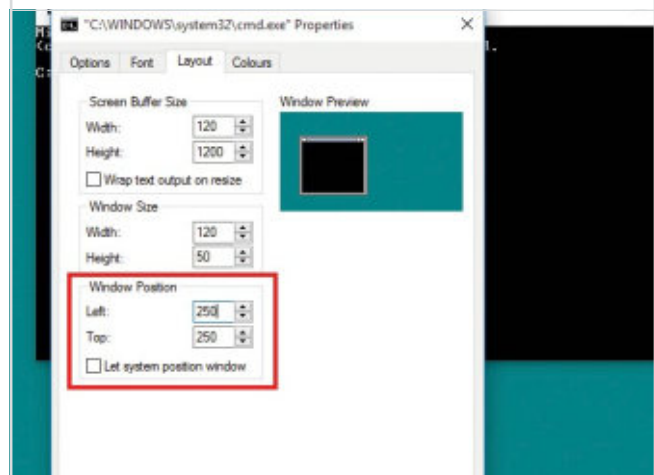
Step 3 To alter the default window size of 80 characters by 25 lines, again either type in your new sizes or use the up and down arrows. You can also extend the window size vertically using the mouse.



Step 2 To alter the screen buffer size, type your new sizes into the width and height boxes, or use the scroll arrows to increase the size one character at a time. The default size is 80 characters wide and 300 lines high.



Step 4 By default the system opens the Command Console window near the upper left corner of the screen, 52 pixels down and right. You can drag it to another position of course, but you can also change the default by entering a new position.



Changing the Screen and Text Colours

If you're bored with the standard, and very traditional, grey on black look of the Windows 10 Command Console, you can now change the appearance of this tool to almost anything you like.

Like many other user interfaces in Windows 10, the command console can now also be tweaked and made more personal.

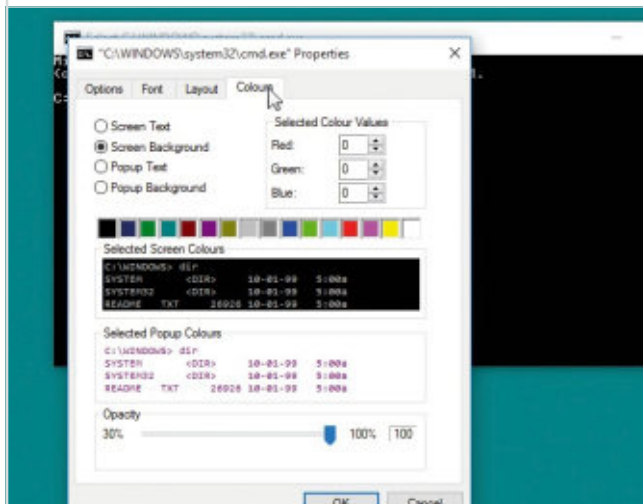
If you've used the Command Console at all, you've probably noticed, assuming that you're old enough to remember, that it looks a lot like the interface of an office computer from the late 1980s. Its plain monochrome grey text on black appearance and chunky typeface looks completely out of place surrounded by the glittering graphical interface of a modern Windows PC.

The default colour scheme of the Command Console is grey text on a black background, which harks back to the console's origins in the

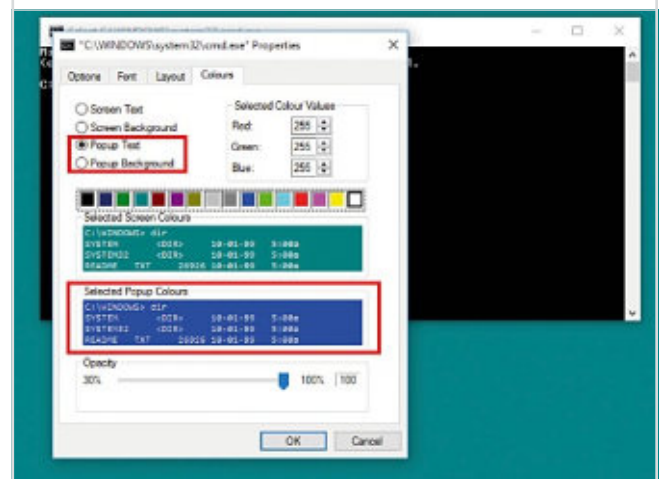
pre-Windows days of MS-DOS, when all you had to control your computer were typed instructions input in a command line interface. That the Command Console has survived at all is a testament to how useful it is to be able to still control your computer this way but there's really no reason why it should still look like a relic from the 1980s.

Thankfully one of the many new features added to Windows 10 is the ability to fully customise the appearance of the Command Console including, finally changing the colours of the on-screen text and the background. While it's not quite as versatile as the customisation features of the rest of the desktop environment, it is possible to make the console at least look like it belongs in the 21st century.

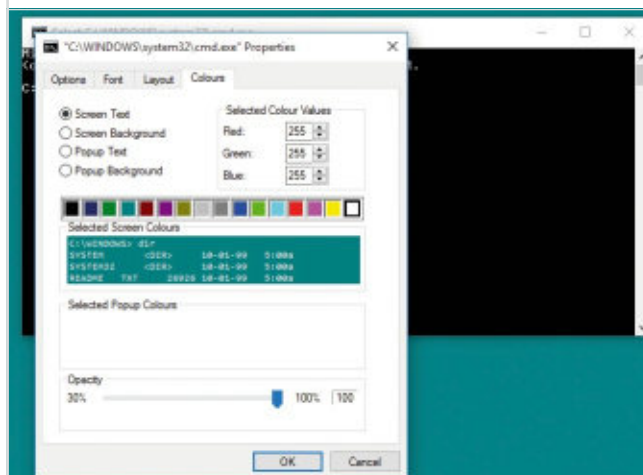
Step 1 As in previous operations, open the Command Console, right-click on the window title bar and select Properties. This time click on the Colours tab.



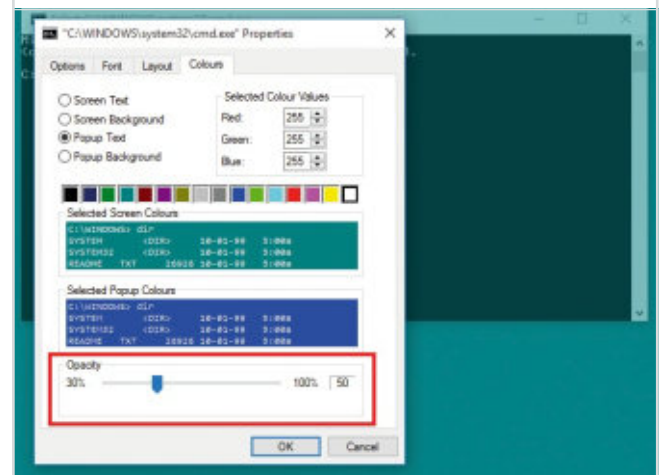
Step 3 The popup colours are seen when you press F7 in the console to display your command line history. By default it displays in magenta on white to differentiate it from the standard console window.



Step 2 Here you can change the colour of the screen background and screen text, as well as the less frequently seen popup colours. There is a wide range of colours to choose from, so pick something you'll like.



Step 4 You can also change the transparency of the console window using the slider at the bottom of the page. Don't worry, it won't vanish completely, the minimum opacity is 30 percent!



Tweak and Modify Windows 10

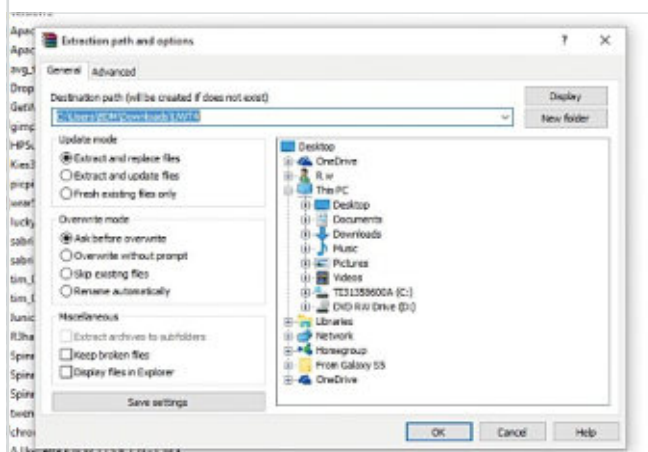
There are plenty of ways to customise Windows 10 built right in to the operating system. However, if you really want to tweak and modify the system, you will need to resort to external software. Ultimate Windows Tweaker 4.1 allows you to modify the appearance, security and performance of Windows 10.

Set Up Windows Tweaker

The Ultimate Windows Tweaker software is not available as an app, so you will need to download the file from <http://www.thewindowsclub.com/ultimate-windows-tweaker-4-windows-10>.

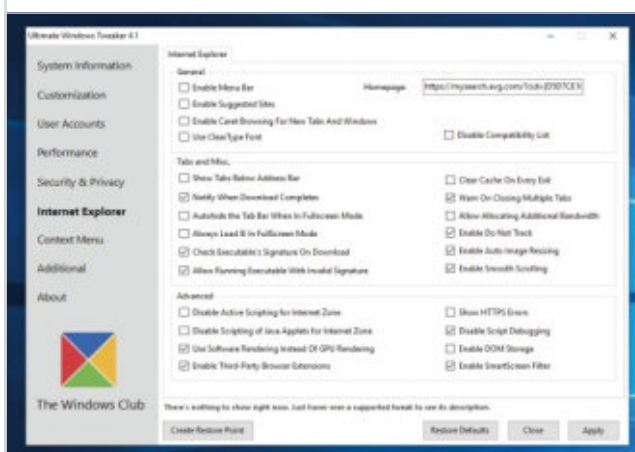
Step 1

Once you have downloaded the zip file, extract its contents and move the program folder to your desired location. Pin its executable file to your Start menu for easy access. Do not separate out the contents of the download as it is important that the contents stay in the same folder.



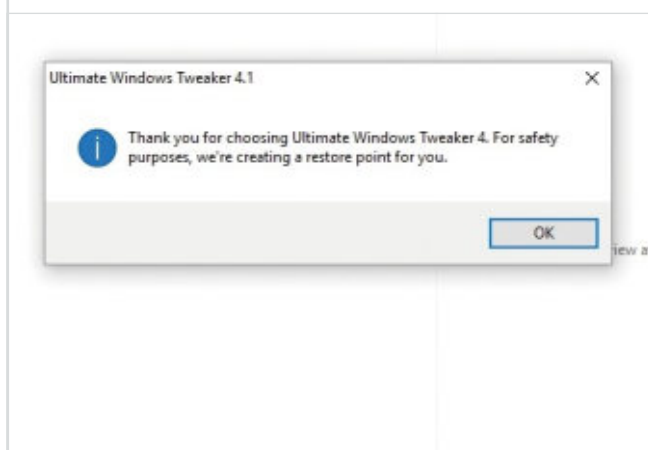
Step 3

These tweaks are not really meant for beginners. It is recommended that you do not over tweak your system in one go. We suggest you apply tweaks for only 1 category every day, see how your system performs, before moving on to apply more tweaks if you don't see problems.



Step 2

As when making any large system changes to your computer, you should create a system restore point first. You can use the Create Restore Point button that UWT offers. The software prompts you to create one, before using the tweaks, so that you can revert back should you feel the need to.



Step 4

To apply a particular tweak, check or uncheck the boxes or use the sliders provided. Once you have selected one or more tweaks, click on the Apply button. Some tweaks may apply instantaneously. If a system restart is required, you will be reminded to restart your computer when you exit.

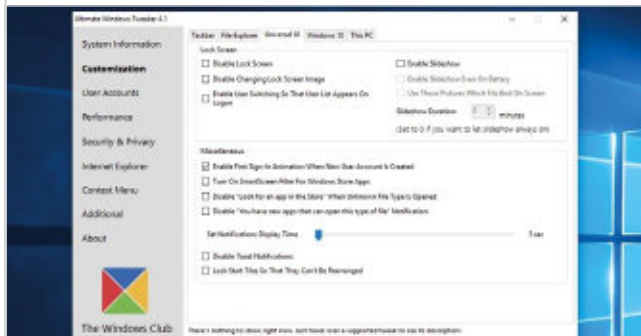


Tweak and Mod Menus

Each of the menus in UWT4 contains lots of different settings and options, from simple appearance tweaks to more complicated performance mods.

Customisation Menu

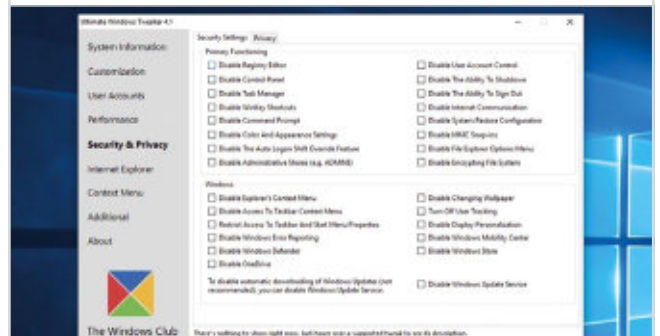
Customisation Menu Under this category you will be able to tweaks settings of your taskbar, Thumbnails, File Explorer and the Modern UI. You can opt to use Light or dark theme for OS or apps, disable Start animations, use default or change Battery Date & Time flyouts or change the Volume Control.



Security & Privacy Menu

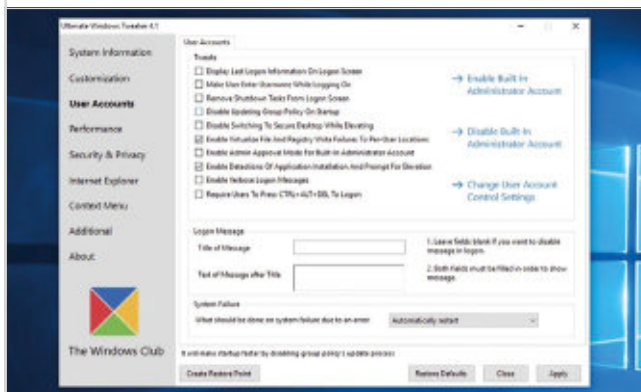
Security & Privacy Menu

If you want to restrict access to some Control Panel applets like Windows Updates you can do so easily. You can disable Telemetry, Biometrics, Advertising ID, Cortana, Windows Update sharing, Feedback requests, password Reveal button, Steps Recorder, disable Wi-Fi Sense and Application Telemetry.



User Accounts Menu

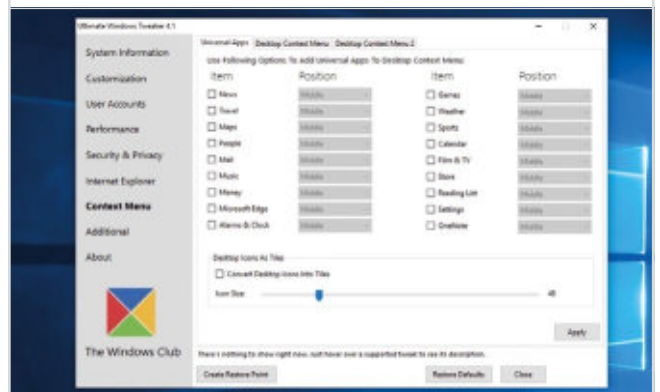
User Accounts Menu Under the User Accounts tab, you will be able to change your User Account settings, Logon information and sign in options. You can also change the User Account Control settings here.



Context Menu

Context Menu

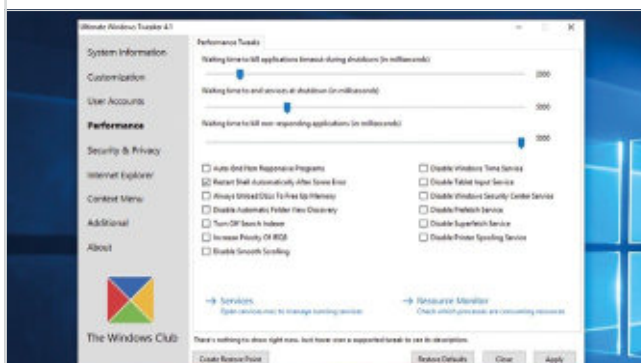
Add Windows Store apps, features and useful functions to the right-click context menu and Scan with Windows Defender, Clear Clipboard, all built-in default Windows Store apps and more to the context menu.



Performance Menu

Performance Menu

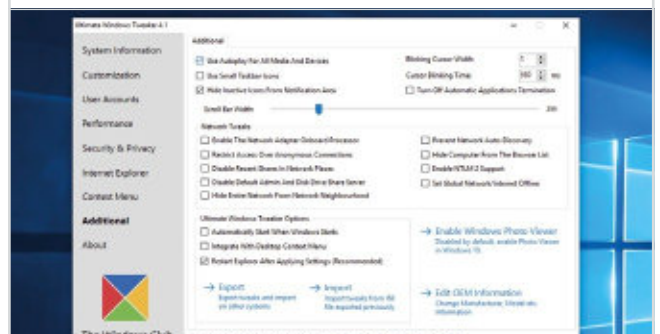
The Performance tab offers tweaks to optimize Windows 10 to best suit your requirements. While most of these settings are best left at their default values, this panel gives you quick access to change them, should you wish to. Tweak these settings VERY carefully at first.



Additional Tweaks Menu

Additional Tweaks Menu

Under this category, you will see some additional system and Network tweaks. You can also set UWT to behave the way you want it too. By default, when you apply a tweak and click Apply, UWT4 will automatically restart explorer.exe to apply the tweak. Change its behaviour if you wish.



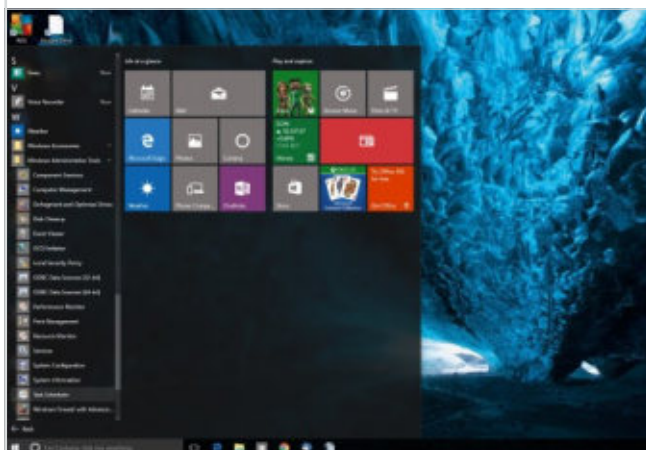
Using the Task Scheduler

The Task Scheduler in Windows 10 is, in many ways, very similar to that found in older versions of the OS. However, in Windows 10, Battery Saver Mode can impact on how it operates (if using a laptop). This guide looks at how the new scheduler works and how we can modify and use it to control almost any app automatically.

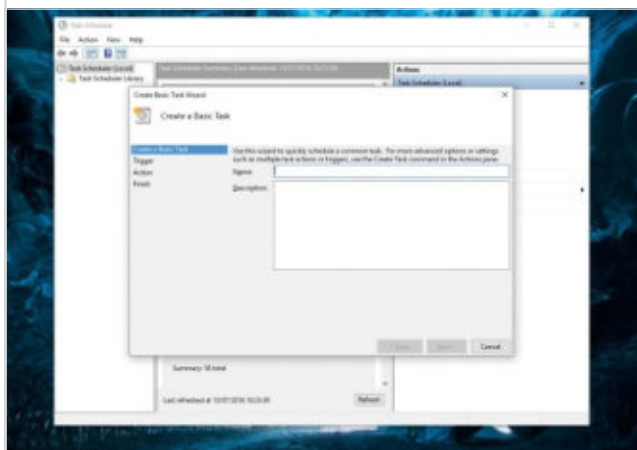
Scheduling New Tasks

Let's take a quick look at exactly how to use the Windows 10 Task Scheduler in normal day-to-day PC operation. And then how to use it to schedule tasks you want or need on a regular basis.

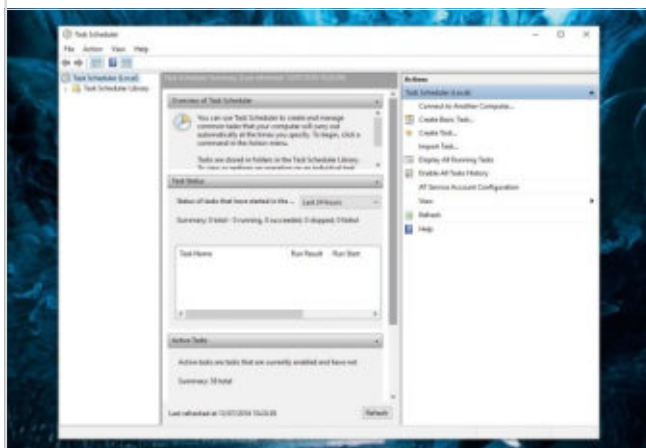
Step 1 Search for "Task Scheduler" in the Cortana search pane or navigate to it in Start menu > All Apps > Windows Administrative Tools > Task Scheduler. The simple scheduler window will now open. This is split into three sections: Scheduler Library, Scheduler Summary and Actions.



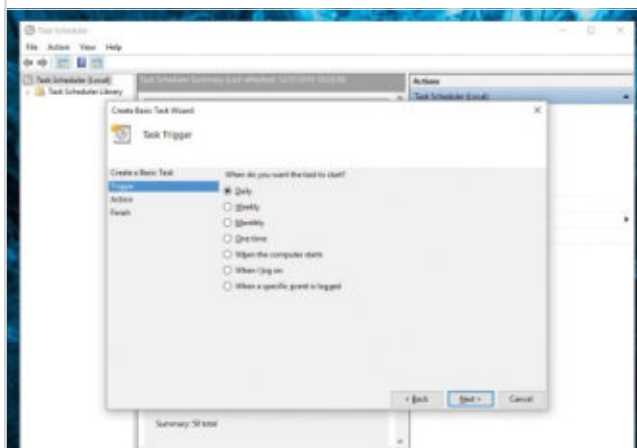
Step 3 The Basic Task wizard will now open. Give your task a name and description (optional) and click Next. You now need to choose the trigger. This can be set to happen daily, weekly or monthly, to happen just once. You can choose starting or logging on to your PC as a trigger also.



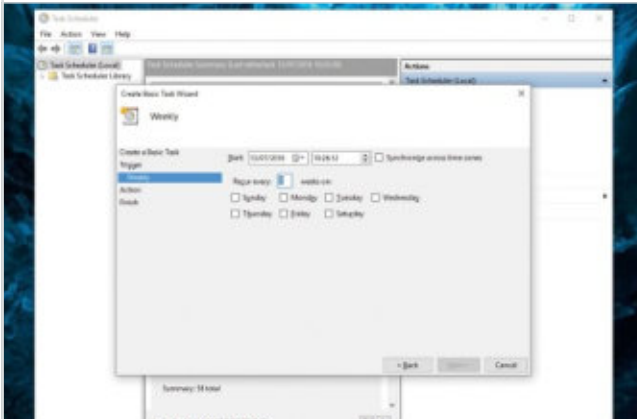
Step 2 You have three main options for adding new tasks to the schedule: Create Basic Task, Create Task and Import Task. For now we will stick to creating a Basic Task. You can start the process by clicking in the Action panel or using the Action menu in the menu bar of the window.



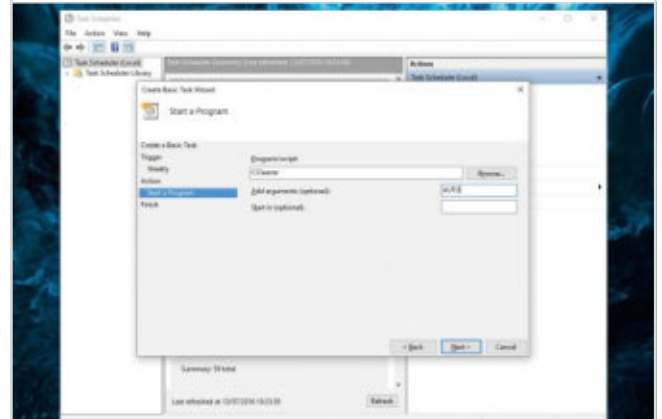
Step 4 If you choose daily, weekly, etc. you will need to set further time options when you click Next. If you select the final trigger option, when a specific event is logged, you will see a set of drop down menus. Here you can choose the event log source and give the event an ID.



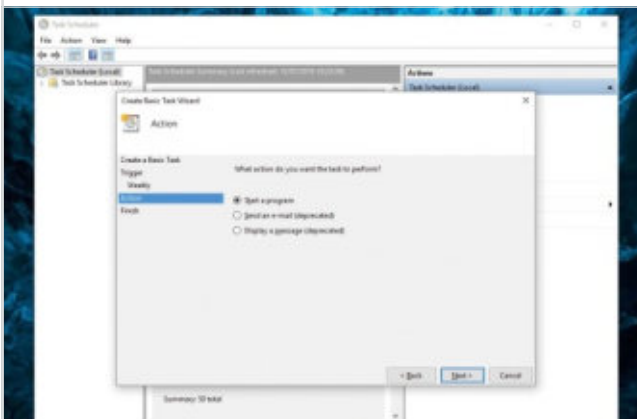
Step 5 For now let's stick to a timed trigger. Choose Weekly and click Next. Use the various boxes to choose when the task starts and how it should recur from then on. Click Next to continue. You now need to choose the Action being triggered by your choices in the previous steps.



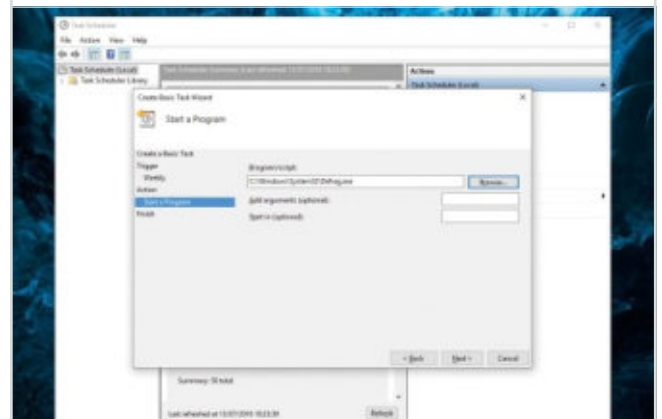
Step 8 You can also add optional arguments, which some programs support. For example you can specify the /AUTO argument with CCleaner to automatically run CCleaner on a schedule. The exact arguments supported will differ between programs and if you're not sure, it is best to check.



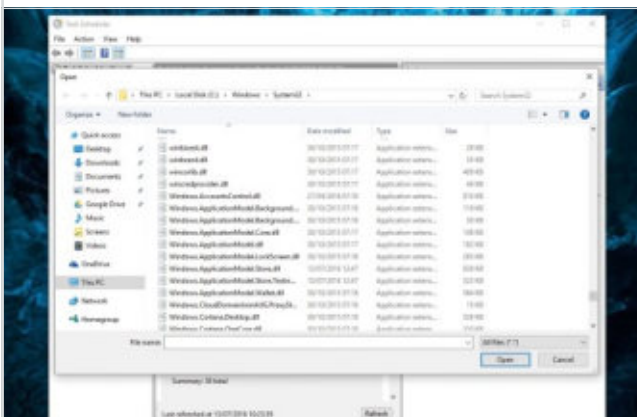
Step 6 The main action is Start a Program or app but you can also choose to send an email or display a message. If you choose to send an email, you will then need to complete things like recipient address and the message itself. If you choose to display a message, you will need to write it.



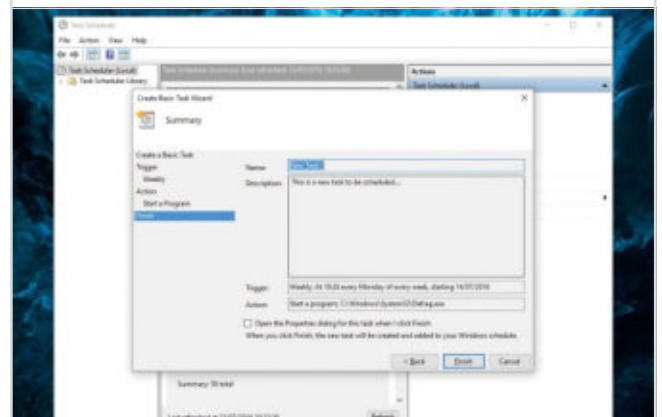
Step 9 Get creative. Task Scheduler doesn't just need to be used to run CCleaner or Defrag. If you use a specific program on a regular basis, you can use the Task Scheduler wizard to create a task that opens the program for you automatically according to the schedule you choose.

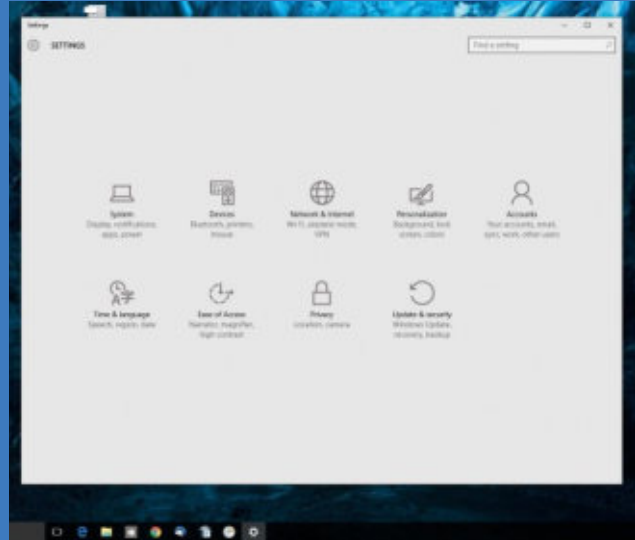


Step 7 For this guide, we will look at starting a program. You can now type the name of the program or script in the Program/Script field. If you prefer you can click Browse and search through available programs to find the one you want to start. You are looking for .exe (executable) files here.



Step 10 You can now review the completed task creation by clicking Finish once. If you are happy with all of the settings, etc. click Finish again. If you want to change anything, use the Back button to navigate to the relevant section. You can also choose to open the Properties after finishing.





TASK SCHEDULER IN WINDOWS 10

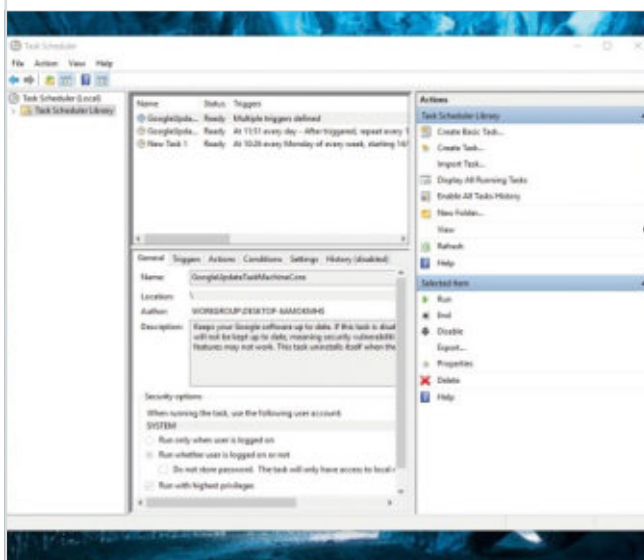
Although the method of creating and managing tasks manually is the same in Windows 10 as it was in 7 and XP, if you are using a portable device, the way the OS prioritises tasks has changed. This change is due to the new Battery Saver mode, which is able to postpone certain tasks if they meet certain criteria.

If Windows 10 detects that the user isn't using their computer, it considers the system idle. This means that some scheduled processes won't execute. For example, disk optimisation runs at set intervals when the computer idles. However, when operating on battery power, running disk optimisation on a spin-up Hard Disk Drive (HDD) could negatively affect your system's uptime.

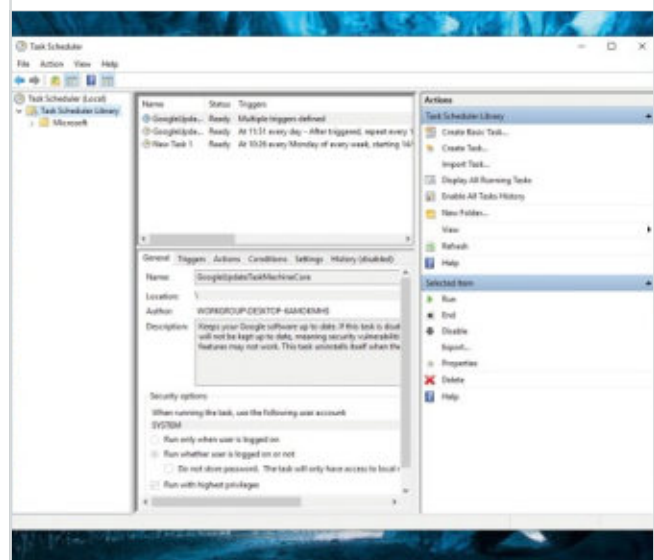
Modifying or Deleting Tasks

You may want to modify existing Windows 10 tasks or even delete them altogether. This should always be done with care and research beforehand.

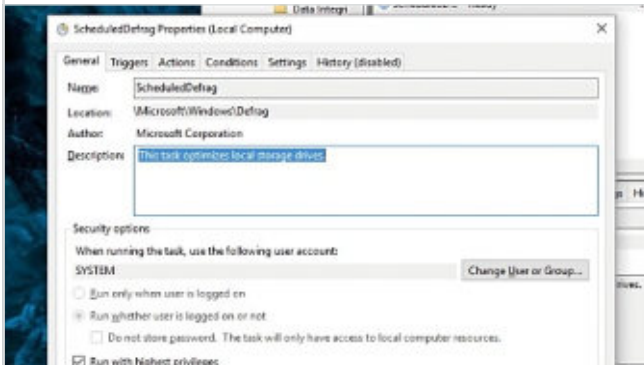
Step 1 If you are looking to modify or disable any scheduled task, open the Task Scheduler. You can just type "Task Scheduler" into Windows Search and it should show up in the results. If you are creating or modifying a lot of tasks, it might be worth pinning the Task Manager to the Start menu.



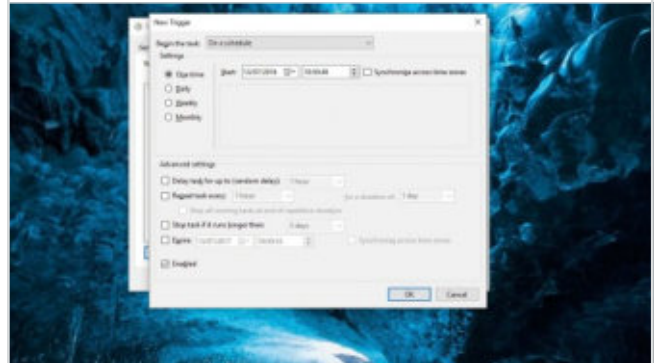
Step 2 Looking at the left-hand panel in the Task Scheduler will allow you to see all of the existing scheduled tasks (Task Scheduler Library). Click on the folder and the tasks will be displayed in the middle panel. You can dig down further into the folder structure using the arrow toggles.



Step 3 For example, click on the left facing arrow for Microsoft. Then click on the left facing arrow for Windows. From the list of entries that appear, find the Defrag option and click on it. In the centre panel, double-click on ScheduleDefrag. This will open a new properties pane.



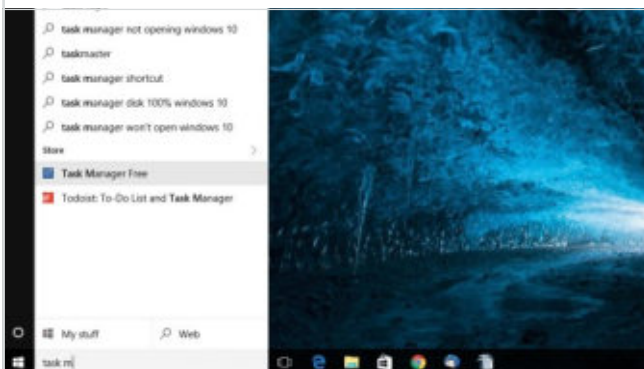
Step 4 The properties pane shows the triggers and conditions that control the Defrag utility's behaviour. If you want the process to run regardless of Battery Saver, you'll need to make sure that none of the triggers are idle state, or are part of auto maintenance. They must run though when logged out.



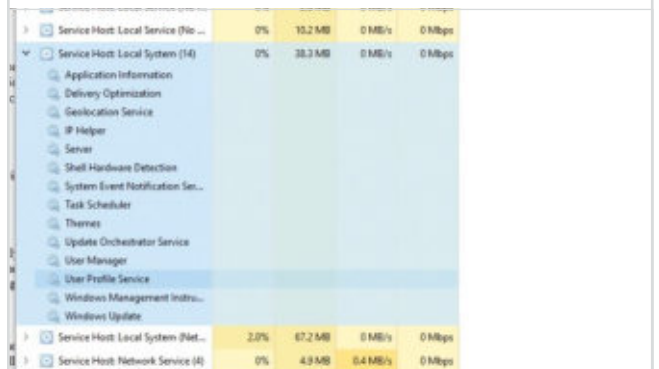
Turn Off Task Scheduler

Although there is no simple switch to turn off individual tasks or to turn off the Task Scheduler as a whole, you can disable it in another way.

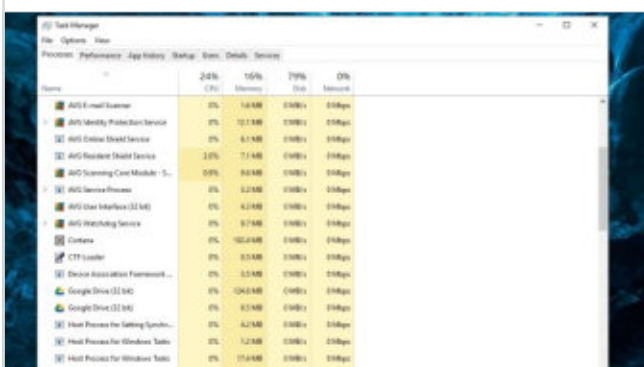
Step 1 To turn off or disable the Task Scheduler temporarily whilst in Battery Saver Mode, as turning it off all the time could adversely affect performance, you need to open the Task Manager. You can search for this using the Cortana search field or by looking in Start menu > All Apps.



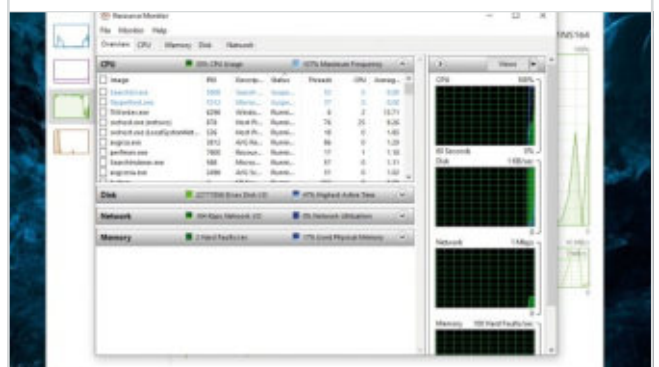
Step 3 You should see the Task Scheduler in this list. Right-click on the entry and choose Disable from the contextual menu. To re-enable it, simply right-click and choose Enable from the contextual menu. Remember to turn this service back on after leaving Battery Saver Mode.



Step 2 You can also open the Task Manager by pressing the key combination CTRL + SHIFT + ESC. Next locate the entry for Service Host: Local System (followed by a number) on the processes tab and click on the left facing arrow to show the full list of processes inside.



Step 4 The Task Scheduler offers much more than optimized battery performance. It can automate boring processes, including suspend and sleep. For anyone looking to shave a few precious minutes off their work routine, the Task Scheduler is a must have tool.



Create Presentations with Sway

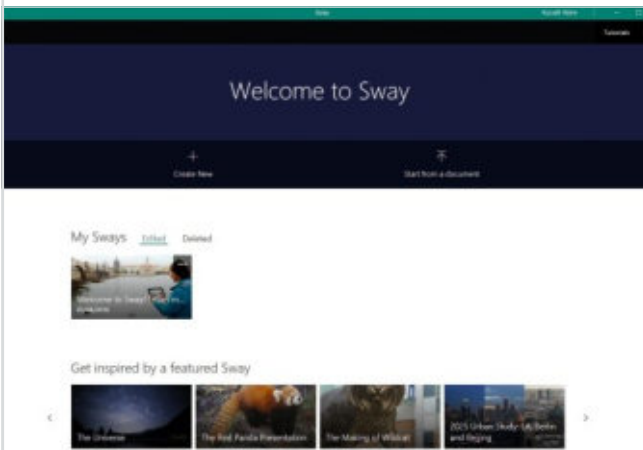
Sway is a new app from Microsoft Office that makes it easy to create and share interactive reports, personal stories and presentations. Its built-in design engine takes care of making your creation look its best. If the initial design doesn't quite match your taste or mood, you can easily apply another.

Sway Presentations

You can create a Sway presentation or storyline from the new Windows 10 app or you can visit www.sway.com and use the same tools in a browser.

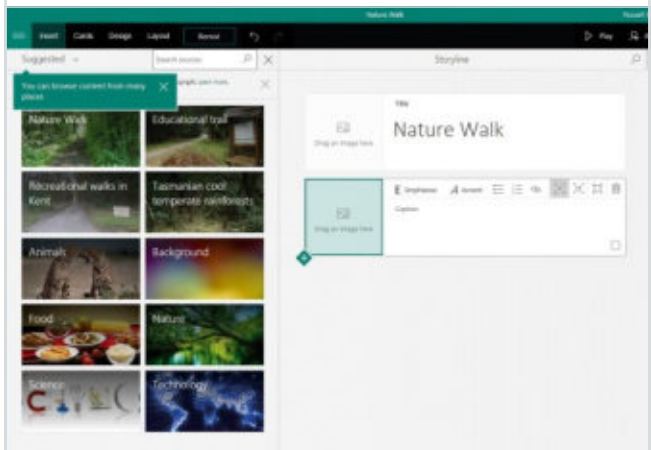
Step 1

The Storyline is where you type, insert, edit and format the content that tells your story. Content is arranged in order by adding cards, each of which holds the type of content you want, including text, images, videos and even Office documents. Cards can be reordered at any time.



Step 3

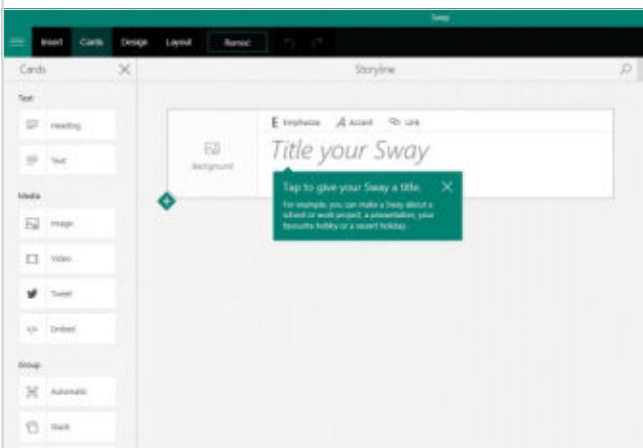
Step 3 To add basic content to your Sway, such as text and images, click or tap the + icon in the bottom left corner of any existing card and then choose the type of content you want to add. To see all options, click Cards on the top menu bar. You can also drag and drop content right onto your Storyline.



Step 2

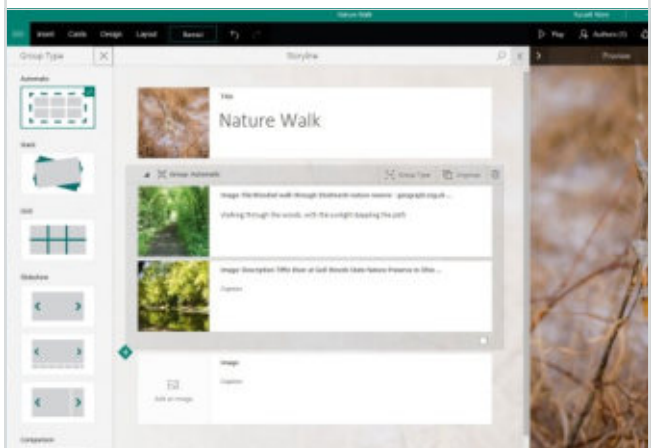
Step 2

So let's get started building a story/presentation. Click the 'Title your Sway' placeholder text shown in the first card on the Storyline and then type a short description of what your Sway is about. When you share your finished Sway later, this title will be the first thing that others will see.



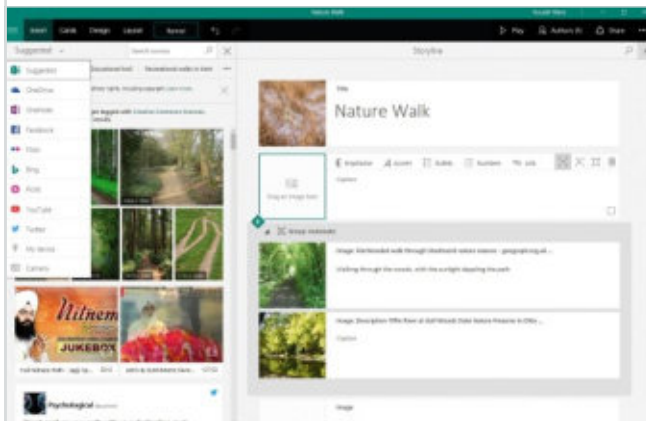
Step 4

Step 4 Each time you want to add a new card, click the + button at the bottom of the previous card. You can also group two or more cards together into one. Click and drag a card on top of another and a new menu will appear that lets you choose how the combined cards are displayed.

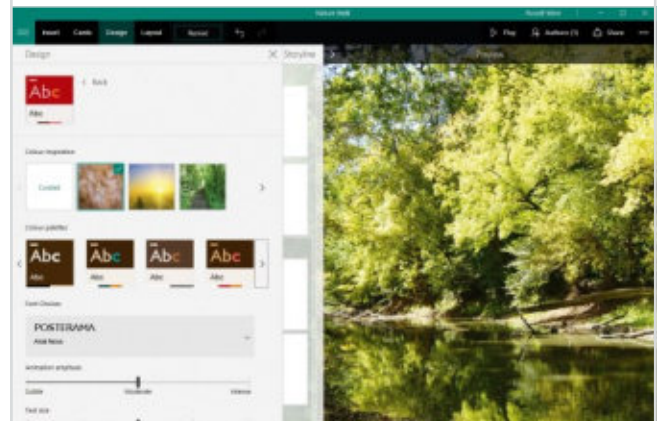


Step 5

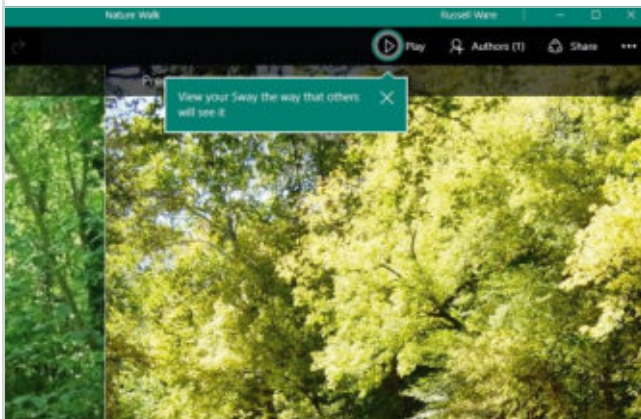
You can easily search for and add additional content to your Sway, such as an image that is stored on your computer. You can also search the Web for relevant content. On the top menu bar, click Insert, select your preferred content source and then enter any search keyword into the Search box.

**Step 8**

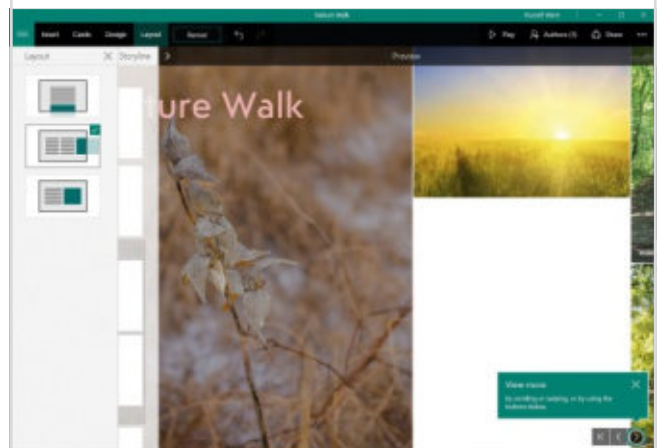
You can also adjust a specific part of the currently applied theme, such as colour, font choices and the emphasis of animation by clicking the 'Customise' button in the Design pane. This gives you complete control over how the finished presentation looks, without making things too tricky.

**Step 6**

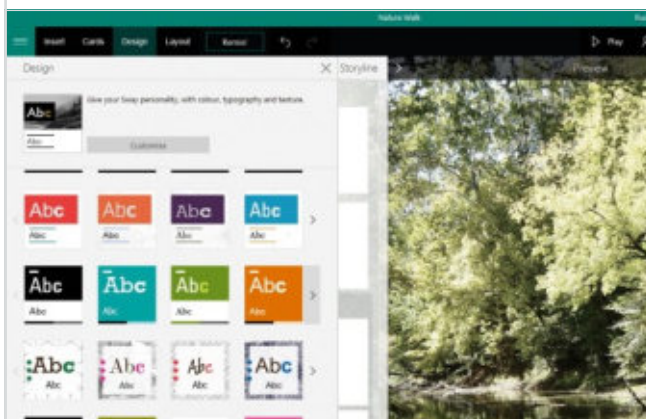
Sometimes it is difficult to know how a Sway will look during its creation, so the app includes a handy preview panel. Click the left-facing arrow in the top right corner of the Sway workspace. Click once for a mini preview and twice for a full preview. Click the right-facing arrow to close it.

**Step 9**

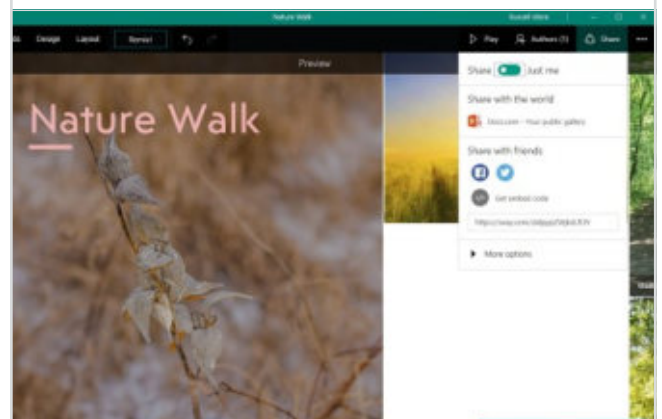
If you want to control how others will view and navigate your Sway once you've shared it, click the 'Layout' button on the top menu bar and then select whether your content should scroll vertically, horizontally or appear like a presentation.

**Step 7**

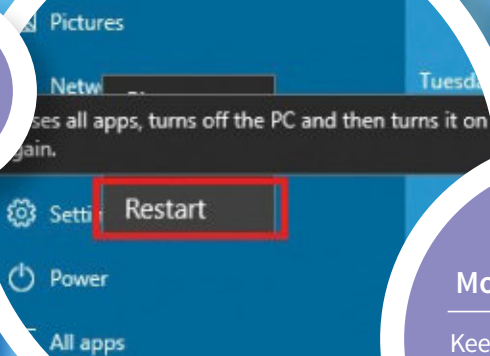
To choose a design for your Sway, click 'Design' on the top menu bar and then select the theme you want. To choose a random look and mood for your Sway at any time, click the 'Remix!' button on the top menu bar until you find a design that suits your taste.

**Step 10**

Ready to share your Sway with the world or perhaps just with selected people? Click the 'Share' button on the top menu bar and then select how you want to share your Sway. Your choices on this menu depend on the type of account that you used to sign in to Sway.



42



Update Your Motherboard BIOS

Keeping your BIOS up to date can really help to keep your PC in top shape.

52

Remove Windows 10 Bloatware

Windows 10 is more packed with bloatware than other OS's. Learn how to remove it.



Hardware and Software Optimisation

From installing or upgrading key hardware components, to making the most of the hardware you already have, these guides will help you to make sure that your computer is ready and capable of taking advantage of the great new Windows 10 features. If you want to give your computer more power or upgrade to the latest graphics card, read on for everything you need to know.

Contents

40	Get the Windows 10 Anniversary Update	54	Defragment Your Hard Drive
42	Update Your Motherboard BIOS	56	Using the Task Manager
46	Update Your Device Drivers	58	Manage Your Background Tasks
48	Disable Unneeded Start-up Items	60	Upgrading Your RAM Modules
50	Turn Off Unnecessary Visual Effects	64	Upgrade to a Solid State Drive (SSD)
52	Remove Windows 10 Bloatware	68	Migrating Windows 10 to a New SSD
		72	Upgrade Your Graphics Card

Upgrade Your Graphics Card

If you want to play the latest games, you may need to get rid of that old GFX card.



72

Get the Windows 10 Anniversary Update

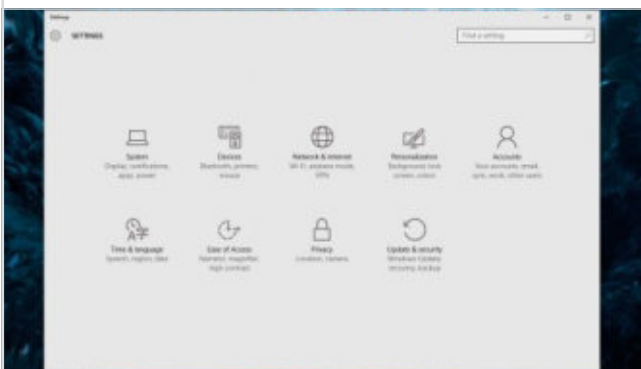
The first major update to Windows 10 is here, bringing with it lots of user requested features, security updates and usability tweaks. With more than 350 million devices already running Windows 10, these new features are only going to improve the experience. So what can you expect from this update?

Updating Windows 10

You may see a popup telling you that the Anniversary update is available to download and install but if you need to, you can check and install manually.

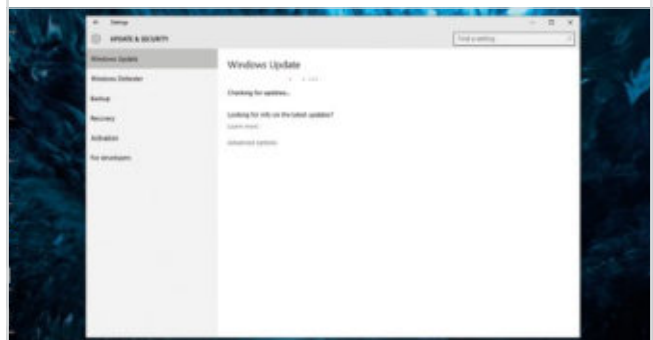
Step 1

Open the main Windows 10 settings, either by searching in Cortana or by clicking the Start menu > Settings.



Step 2

Click on the Updates and Security option. You will now need to tell the PC to check for updates by clicking the button.



Windows 10 Anniversary Features

Let's take a look at what the update will add to Windows 10 and your computer when it is all downloaded and installed correctly.

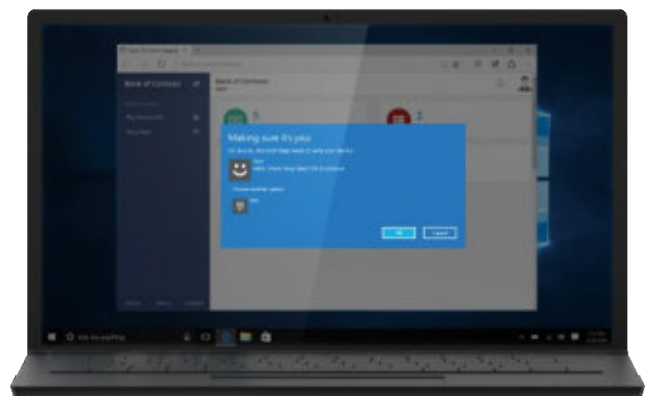
ADDITIONAL SECURITY

Security has never been more critical with more than 250 million threats online in any given day and the Anniversary update adds even more protection.



Windows Hello for Websites

New Windows Hello features make it easy for you to use the same easy, yet strong, security of Windows Hello with Windows apps and Microsoft Edge. The Anniversary Update also enables companion devices to use Windows Hello to unlock your PC, giving you more choices for quick, secured sign-ins.



IMPROVED WINDOWS DEFENDER

Improvements to Windows Defender, the free Microsoft anti-malware service, includes the option to automatically schedule periodic quick scans of your PC; also it will provide new notifications and easy-to-understand summaries when scans are complete and threats are found.

Windows Ink

Windows Ink, available for the first time in the Anniversary Update, brings the writing you do every day into your digital world. Now, using a Windows 10 device, graphic designers can be more creative, musicians can write digital music, lawyers can edit documents with the power of the pen and students can do mathematical equations and learn by writing. All with Windows Ink.



Quickly and easily take a note, sketch on a screenshot or draw an idea. Smart Sticky Notes help you remember common tasks like reminding you of flight times or offering directions using Maps. Key apps have new ink-specific features, like using handwriting in Office, ink annotations in Microsoft Edge or drawing custom routes in Maps.

CHASEABLE LIVE TILES

Live Tiles now include a new feature, which Microsoft describes as “Chaseable Live Tiles”, that allows you to click a story, picture or content in the preview and open the app on that content, instead of just opening the app. The new addition isn’t a significant change but it will help to deliver a more consistent user experience.

Microsoft Edge Updates

Building on strong power efficiency already available in

Microsoft Edge, the Anniversary Update includes even more power saving improvements: using fewer CPU cycles, consuming less memory and minimising the impact of background activity and peripheral content. Microsoft

Edge lasts three hours longer than Google Chrome; long enough to finish the final movie in your favourite trilogy.



Microsoft Edge Extensions, such as Pinterest’s “Pin It Button,”

Amazon Assistant, AdBlock, Adblock Plus and LastPass will be available in the Windows Store with the Anniversary Update to add features to your browser and personalise your experience.

A new accessibility architecture for Microsoft Edge supports modern web standards, including HTML5, CSS3, and ARIA. With the Anniversary Update, page structure and content are now exposed more clearly with assistive technology. Visual presentation of web pages in high contrast mode is greatly improved to provide additional visual context, while preserving text contrast. Form entry when using keyboard navigation and screen readers improve in this update too, making the browsing experience for people of all abilities better.

TASKBAR NOTIFICATIONS

There have been some changes to the taskbar in the Anniversary Update. Microsoft has added notification badges to the taskbar, which will be available on the Universal Windows Platform (UWP) apps. This will make it easier for users to see at a glance the notifications available for a particular app through a badge with a counter. However, it will be up to developers to add the functionality into their apps.

Cortana Updates

Cortana is now available above your lock screen so you can do things like ask questions, play music from your PC or set a reminder without unlocking your device.

Cortana can save and recall key information, like your frequent flyer number or where you parked at the airport. You can also add photos to make your reminders visual, like a photo of a bottle of wine you enjoyed at a restaurant.

Cortana can give you notifications across all the devices you have with Cortana; like sharing directions across devices or from text or messaging services on your phone.

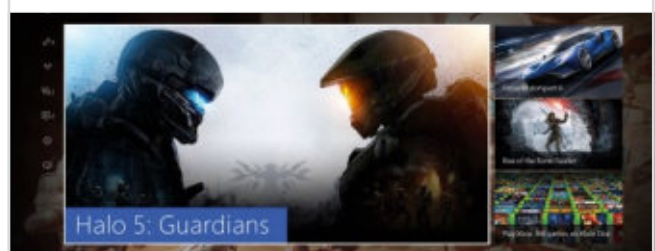


Connected Gaming

With the Xbox Play Anywhere program, you can buy a game once and play on your Windows 10 PC and Xbox One with shared progress, shared game saves and shared achievements. Every new title published from Microsoft Studios that was shown onstage at E3 this year will support Xbox Play Anywhere and will be easily accessible in the Windows Store.

Xbox Play Anywhere games will be offered within the new unified Windows Store on both Windows 10 and Xbox One. You’ll be able to find the content you want faster and purchase game and app bundles, pre-orders, pre-downloads and subscriptions such as Xbox Live Gold.

With Xbox One gamers will be able to use Cortana commands to find great new games, see what their friends are up to, start a party, accomplish common tasks and turn on the Xbox One by saying, “Hey Cortana, Xbox On”.



Update Your Motherboard BIOS

The Basic Input/Output System (BIOS) is the built-in software that operates the hardware of your computer. It is an essential part of the software your computer needs but is often forgotten about or ignored after initial set up. To run Windows 10 at optimum performance you may need to update it.

The BIOS (Basic Input/Output System) is an often overlooked but absolutely vital part of your computer system. You see it every time you switch your computer on – it's responsible for those lines of text that flash up on the screen before Windows launches, listing things like installed RAM and other hardware details. It's the core software of your system; it boots up the computer, launches Windows and in some cases allows Windows and other apps to access things like hard drives, the keyboard, USB connections and other hardware components. The BIOS is built in to your system and is stored on a type of flash memory chip on your computer's motherboard. For this reason it is often referred to as "firmware", since it is both software and hardware. The BIOS is particular to each type of motherboard and is provided by the motherboard manufacturer.

To get the best performance and system stability under Windows 10, it's important to make sure that your computer is running the latest version of its BIOS, so in this tutorial we'll show you how to: check the current version, download an update and then install it.

It's important to note that the BIOS is a vital part of your computer and messing up the update process can cause irreparable damage to your system, possibly rendering it useless. For this reason we recommend that you only undertake

this process if you are confident that you know what you're doing. If you have any doubt ask a computer savvy friend to help you or take your PC to your local computer store, who will be happy to perform the update for you, usually for a small fee. It's also a good idea to perform a full backup of any important data on your system to an external storage device before you begin, just in case!

Things you'll need:

- The manual or specification sheet that came with your PC
- A used but empty USB flash drive

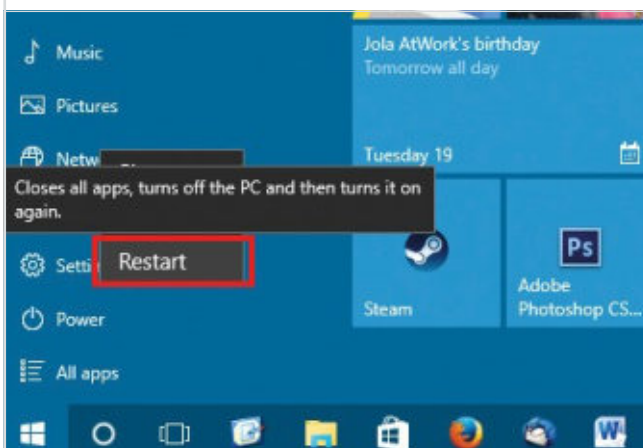
DISCLAIMER

Updating the BIOS carries the risk of damaging your PC and you may also void the warranty on your equipment. If you are not completely confident that you can carry out this operation safely DO NOT ATTEMPT IT. You do so entirely at your own risk; Black Dog Media cannot accept any responsibility for any damage to your property as a result of following this tutorial.

Checking Your Current BIOS Version

To check the current BIOS version you'll have to open the BIOS interface. The exact method varies depending on your motherboard manufacturer.

Step 1 Close all open apps, then click on the Start button and select Power, then Restart. This will shut down your PC and reboot it.

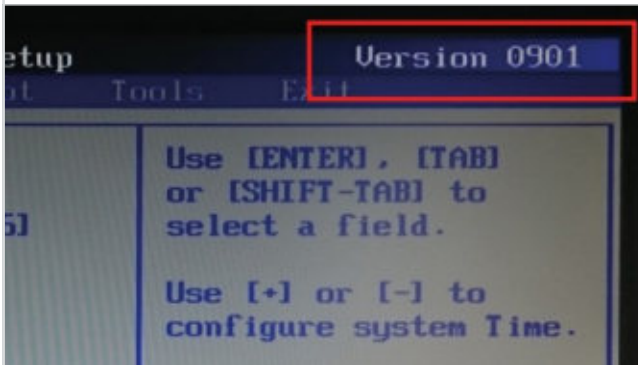


Step 2 As your PC reboots, watch for the BIOS messages that flash up on the screen. You're looking for a message that says something like "Press F2 to enter BIOS". The message varies; on some systems it's the Delete key, on some it's Esc or one of the F keys.

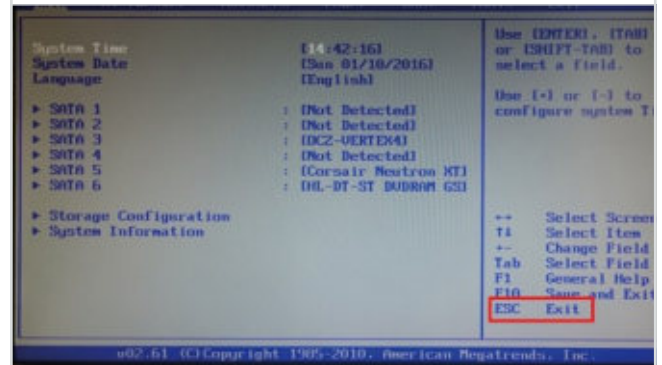
```
Memory Information: DDR 4GB Dual Channel, 128-bit  
Chipset Model: nForce 4  
Primary IDE Master : PLEXTOR DVD-R PX-716AL 1.02  
Primary IDE Slave : None  
Secondary IDE Master : CD-RW524E 1.0E  
Secondary IDE Slave : None
```

```
Press F1 to continue, DEL to enter SETUP  
12/07/2005-NF-CX804-A0NSLI-P-00
```

Step 3 Restart your PC but this time as it reboots, press the indicated keyboard key. If Windows launches restart and try again. If you don't know which key it should be, try Delete, Esc, F1, F2, F8, F10 or F12. You should see the BIOS version number displayed, usually at the top of the screen. Make a note of it.



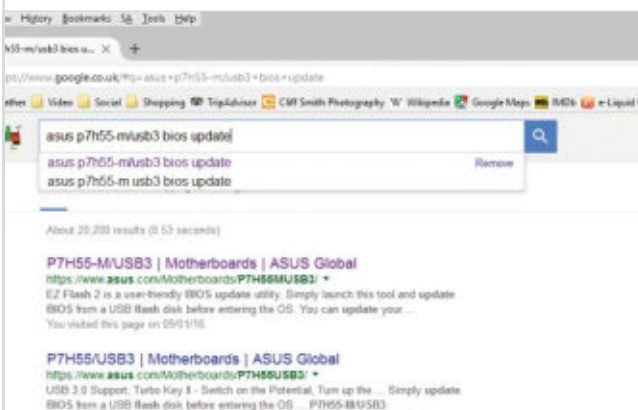
Step 4 When you've found and noted the BIOS version number, press Esc or navigate to the Exit menu and quit out of BIOS without saving, since you haven't made any changes to anything. You're now ready to locate a BIOS update for your system.



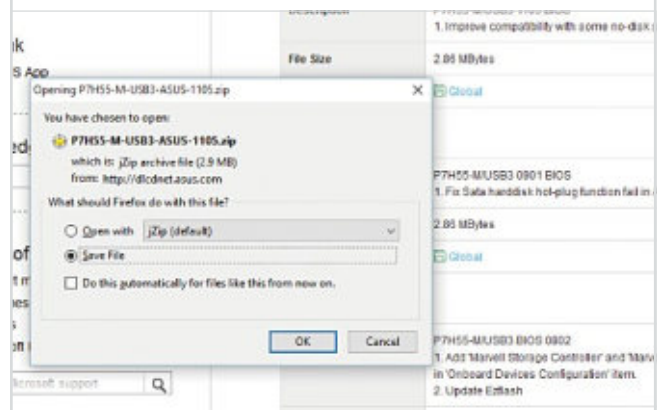
Download a BIOS Update

Once you've found out your BIOS version number, you'll need to check to see if an update is available. You'll have to do this whether or not your PC has a built-in BIOS update utility.

Step 1 Since some computer manufacturer's websites hide vital update information, by far the easiest way to locate a BIOS update is to type your computer or motherboard model number into Google, along with "BIOS update".



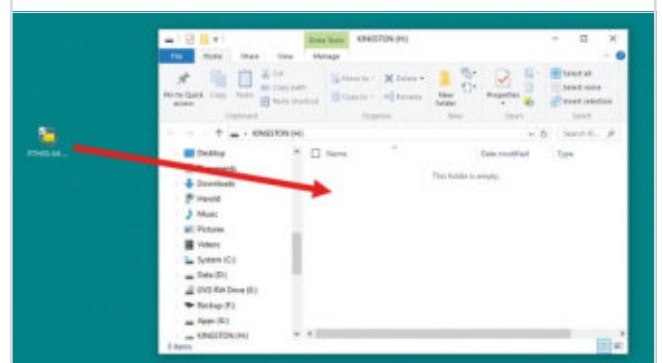
Step 3 You may see that there are updates that mention Windows 10 specifically. If there is a more recent BIOS version available than the one you have, click on the link to download it.



Step 2 Once you've located the right page, click on the link for BIOS version information. In most cases you should see a list of available BIOS versions. Check to see if any are more recent than the one you have.



Step 4 Once the new BIOS version has finished downloading, insert a USB flash drive into any USB port that is attached directly to your computer (not an external USB hub) and copy the downloaded BIOS update onto it. Leave the flash drive plugged in for now.



Flashing Your BIOS Using a Built-in Utility

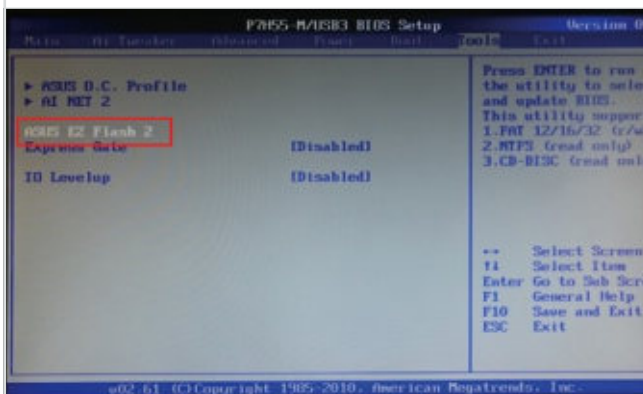
Now for the scary part – installing the new BIOS update. Make sure you’ve fully backed up your system before attempting this operation.

If you’re attempting to update the BIOS on a laptop, it’s very important that you have it plugged in to the mains adapter, rather than running on the battery. If the battery runs out part way through the update process you could render your PC inoperable and end up with an expensive doorstop instead of a computer!

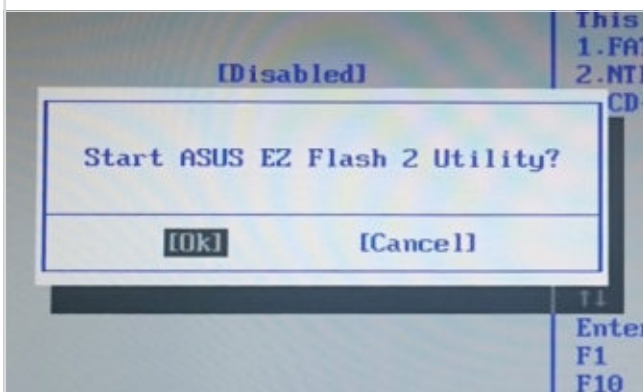
- Step 1** With the USB flash drive from the previous section still plugged in, restart your PC and enter the BIOS interface by pressing the key that you discovered in the first part of this tutorial.



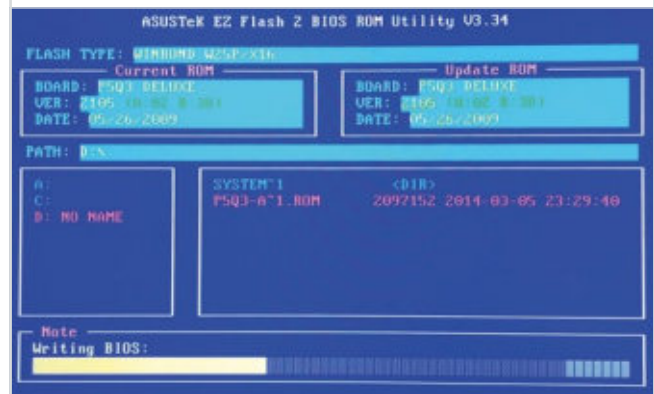
- Step 2** Look at the main menu or the tabs across the top of the BIOS screen. If you see “Tools” navigate to it and you should find the BIOS update utility.



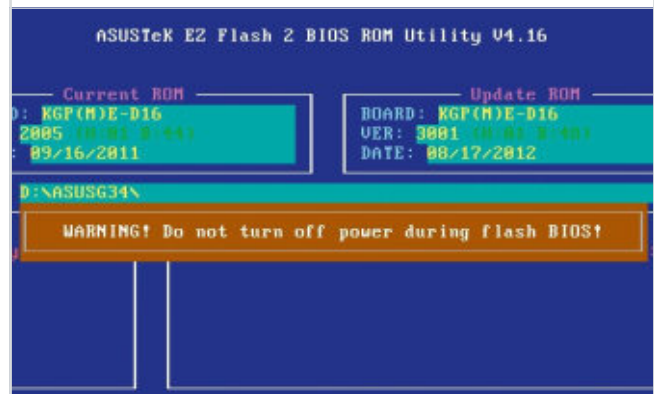
- Step 3** Using the arrow keys, move the cursor to highlight the BIOS flash utility and press enter. You’ll see a confirmation message appear. Highlight OK and press Enter.



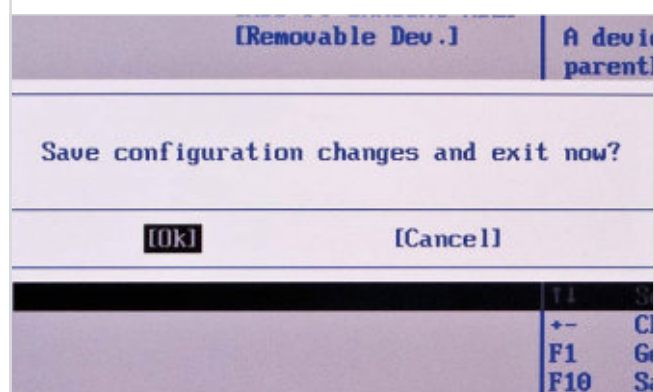
- Step 4** The update utility should recognise the USB flash drive that you have plugged in and it should find the BIOS update that you copied onto it. Highlight the update and press Enter.



- Step 5** The BIOS update process will now proceed automatically. Once it’s complete you will see that the BIOS version number has changed.



- Step 6** Press Esc or navigate to Exit, save changes and Exit the BIOS screen. Your PC will restart and Windows should now launch normally.

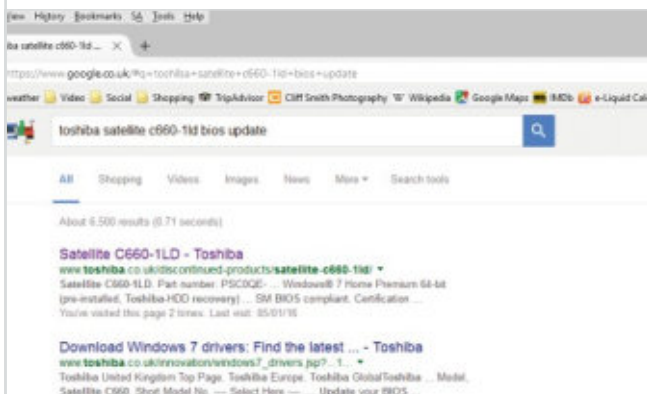


Updating the BIOS Using WinFlash

For some systems you will need to update the BIOS from within Windows using a special utility called WinFlash (sometimes WinPhlash).

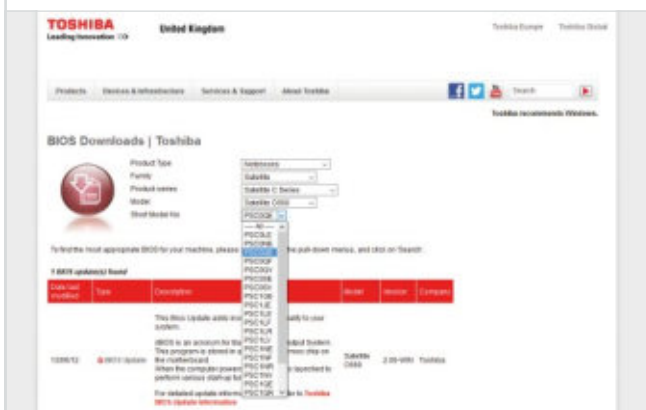
Step 1

Using Google, type in your computer make and model name followed by "BIOS update". You should find the page on the manufacturer's website with BIOS update information and links to download an updated BIOS.



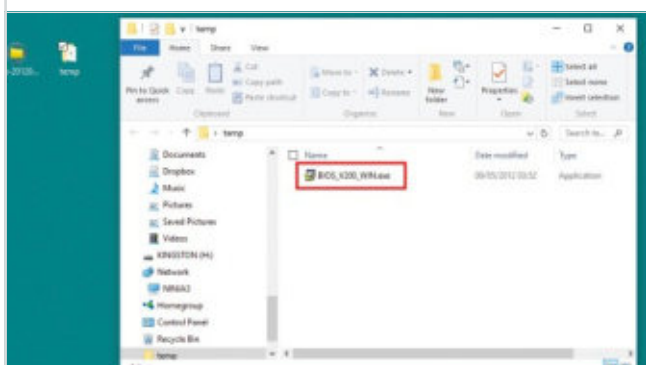
Step 2

Before you download, make sure that it's the correct BIOS for your exact model. Most manufacturers' sites have a series of menus to ensure that you're on the correct page. If you're sure you've found the right one, click to download.



Step 3

Once the download is complete, extract the files into a temporary folder on your desktop. Close any open apps and make sure you've fully backed up your system. Open the temporary folder and look for an executable file ending with the .exe suffix. Double-click on this file.



Step 4

WinFlash (or WinPhlash) will now open, showing you the name of the BIOS file, usually BIOS.BAK, and the new BIOS file name. Check that the option "Backup BIOS and flash BIOS with new settings" is selected, then click the button labelled "Flash BIOS".



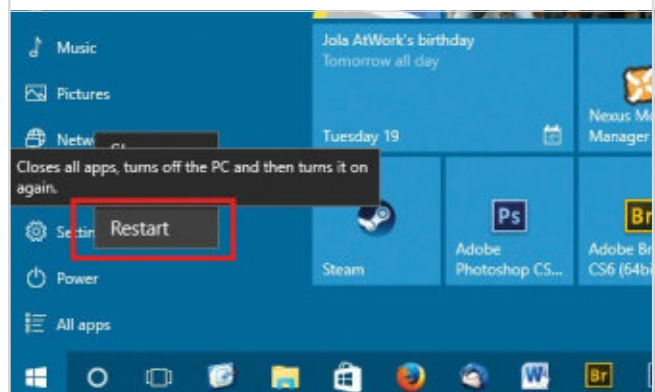
Step 5

The update process will now proceed automatically. You'll see a window with the progress of the process shown. Once the update process is complete your PC should restart automatically. Let it do so and check that Windows launches normally.



Step 6

Once Windows launches, check the system date and time. If it's not updated automatically, you may need to restart your PC again and go into the BIOS interface once more to reset the system time.



Update Your Device Drivers

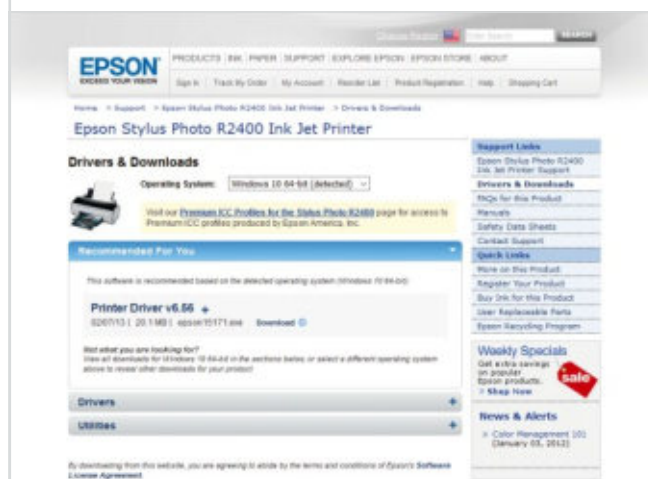
Keeping your device drivers up to date ensures that your computer delivers optimum performance under Windows 10 and makes your whole system more stable and reliable. It therefore makes sense to periodically check that everything is up to date and using the optimum drivers available.

Finding Device Drivers

Windows 10 comes with default generic drivers that will let it talk to most common peripherals but for optimum performance it's a good idea to download and install the latest custom made drivers for your hardware.

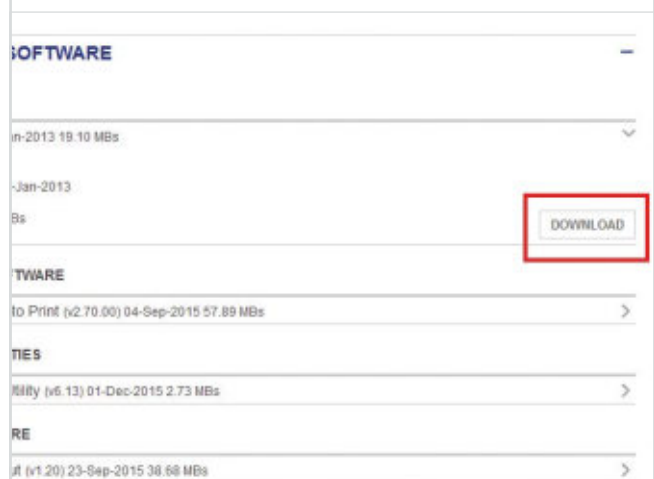
Step 1

Go to the website of your peripheral manufacturer. In this case we're looking at the website for Epson printers, to install an update for an R2400 photo printer. Click on the link for product support and enter the model name and/or number.



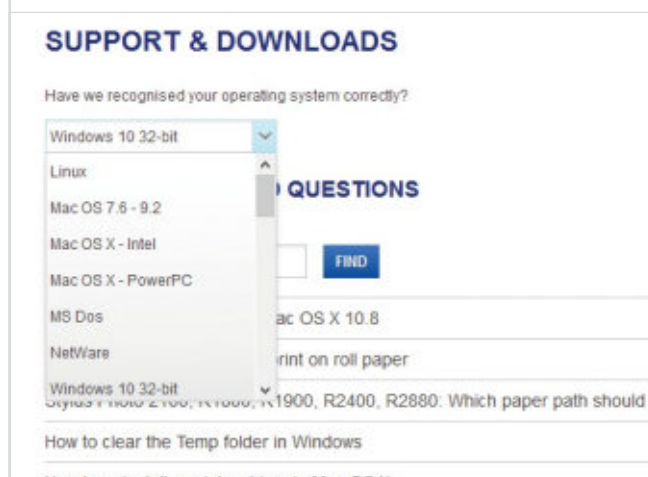
Step 3

Once you've entered the model name and told the site that you're looking for Windows 10 drivers, you should be offered a link to download the latest driver. Click on the link and download the driver file to your desktop.



Step 2

Some websites (such as Epson's) can automatically detect the operating system you're using and immediately offer you the latest recommended driver. In other cases you will have to tell the site that you're using Windows 10.

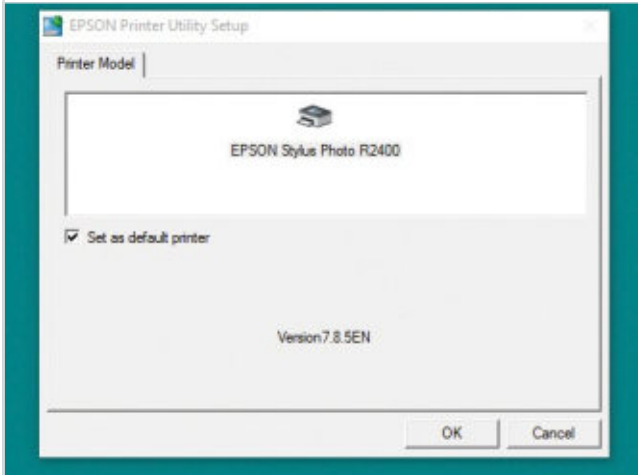


Step 4

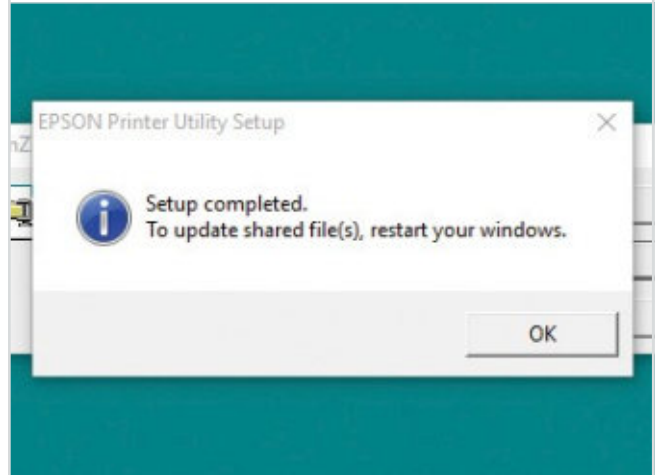
If you're installing a driver for a device that has to be plugged in and switched on in order to work, such as a printer, make sure that the device is connected and powered up before proceeding.



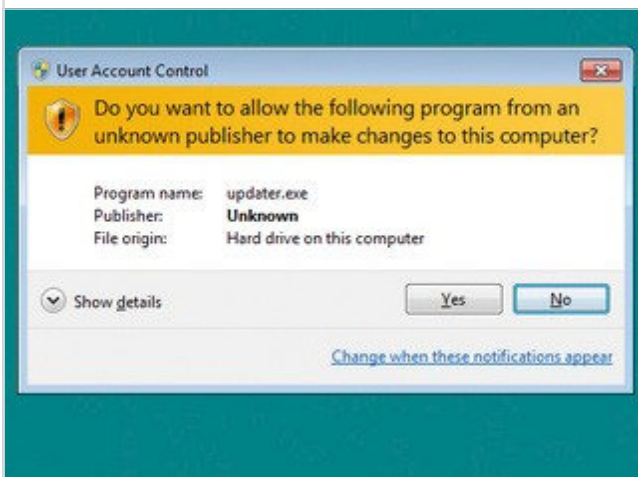
Step 5 Once the driver download is complete, go to your desktop and locate the newly downloaded file. Double-click on it to begin installation.



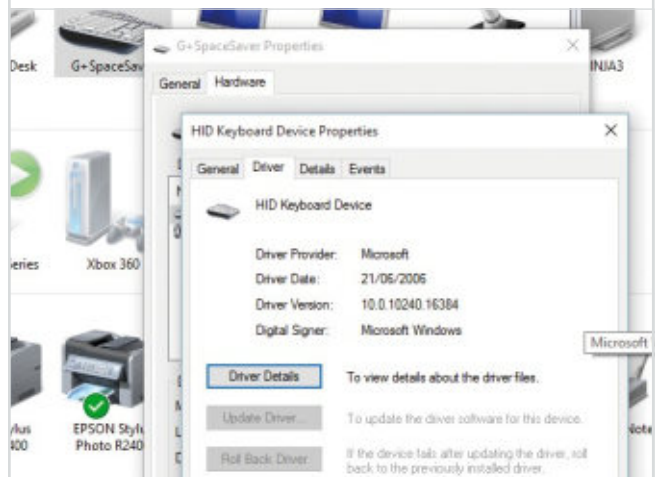
Step 8 The driver installation should only take a few seconds. When it's complete you'll receive a notification telling you that the installation was successful.



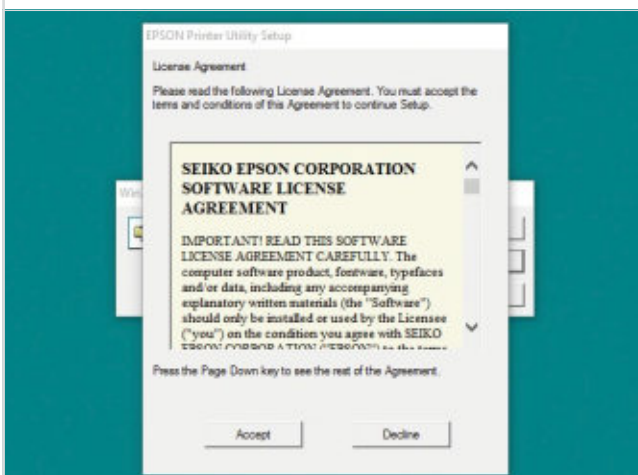
Step 6 You'll see a message from Windows asking if you want to proceed with software installation. Click OK to proceed.



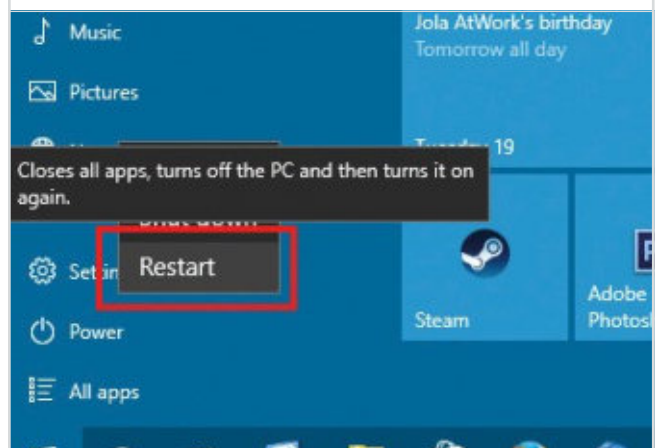
Step 9 Repeat this process for any other peripherals that are connected to your system. You don't need to restart between installations for different types of devices.



Step 7 From here on the process is mostly just clicking OK on a series of windows. Do check that the device driver you're installing matches the device connected to your PC.



Step 10 Once you've finished updating your drivers, it's a good idea to restart your machine, since this should clear out any temporary files created during the installation process, as well as finalising the deletion of any old drivers.



Disable Unneeded Start-up Items

Windows 10 launches pretty quickly when it's newly installed but as you install more apps it may slow down over time. This is how to keep that initial fast launch speed by disabling some of the unwanted or unrequired software that automatically runs when you start your PC.

If you first installed Windows 10 on a clean hard drive you probably notice that it launched much more quickly than Windows 8.1 ever did. However over time, as you've installed more programs, you may have noticed that the once sprightly boot-up time now takes noticeably longer. The reason for this is that many programs add files to the Windows startup process, which are run as Windows launches, slowing down the launch process.

Some of these files are genuinely useful, doing things like updating your anti-virus software or launching and synchronising Dropbox, OneDrive and Google Drive; others are simply checking for software updates or initialising drivers for seldom used hardware. Some software manufacturers, notoriously Apple and Adobe, often install several startup files at once and even if you disable them as we're about to show you, any subsequent software updates will re-activate the startup files. This is particularly annoying, since the more of these startup items there are, the slower Windows will launch.

You may have looked at these startup items before and wondered whether or not it's safe to remove them. The simple answer is yes, it's perfectly safe; none of the startup files are vital to the running of your PC and all of them can safely be disabled. Disabling a startup file will not uninstall the software that it launches; all the apps that they affect can be started manually when needed and Windows will start up completely safely without them. The only one you really need to leave in place is the one that starts up your anti-virus software, unless you're relying on Windows Defender, since you do need your PC to be protected from the moment it starts. In some cases the anti-virus software launcher will not even appear in the list to prevent you from accidentally disabling it.

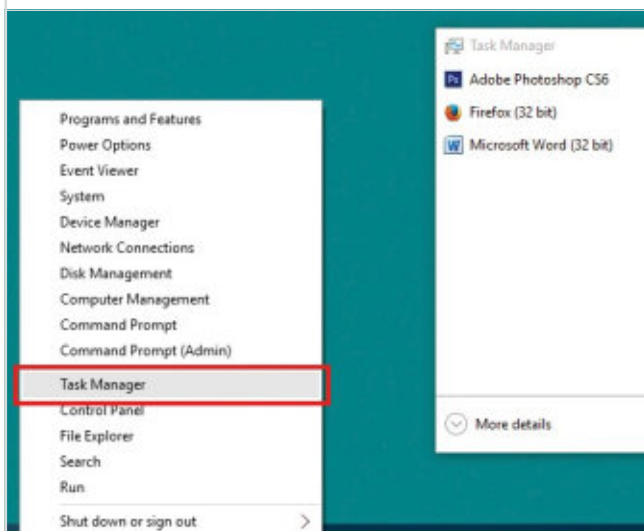
If you regularly use a cloud storage service such as Dropbox, OneDrive or Google Drive you might also want to leave the startup files for these active, since they ensure that your files will be synchronised automatically as soon as your PC boots up and you won't miss any important updates the day before an important deadline!

Manage Startup

Fortunately there's a very simple way to check and if necessary disable these startup items, restoring your Windows launch speed to its former brisk pace. This is what you need to do.

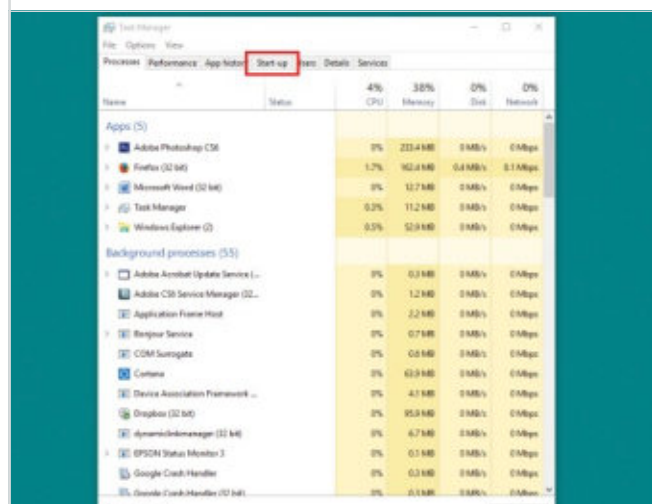
Step 1

To get started, right-click on the Start button and select Task Manager from the power menu. This shows you a list of your currently running apps. To see more, click on the "More details" button at the bottom of the screen.



Step 2

The More details view shows you not just running apps but all the other services and routines that Windows is currently running, and there are a lot of them! However what we're interested in is found on the Start-up tab, so click on that.



Step 3 The Start-up tab shows you a list of the apps that run every time you launch Windows. On the left column is the name of the app, followed by the manufacturer's name, then the status: enabled or disabled. The right column shows the impact on start-up speed.

Name	Publisher	Status	Start-up impact
Adobe Updater Startup Utility	Adobe Systems Incorpor...	Disabled	None
BIOS detect tool	DeviceVM, Inc.	Disabled	None
Dropbox (3)	Dropbox, Inc.	Enabled	High
Dropbox Update (3)	Dropbox, Inc.	Enabled	Low
EPSON Status Monitor 3	SEIKO EPSON CORPORA...	Disabled	None
GamingMouseEditor.exe		Disabled	None
Google Drive (2)	Google	Enabled	High
iTunesHelper	Apple Inc.	Disabled	None
Microsoft OneDrive	Microsoft Corporation	Enabled	High
NVIDIA Backend	NVIDIA Corporation	Enabled	Low
NVIDIA Capture Server Proxy	NVIDIA Corporation	Disabled	None
Program		Disabled	None
Realtek HD Audio Manager	Realtek Semiconductor	Disabled	None
Sony PC Companion	Sony	Disabled	None
USB 3.0 Monitor	NEC Electronics Corpora...	Disabled	None

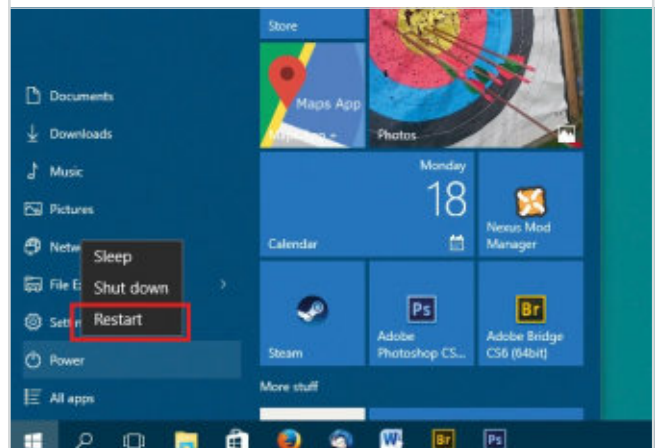
Step 6 Note that disabling an app in the start-up menu doesn't uninstall the app from your system, and you can always start any app you need manually. All disabling an app in the start-up list does is to prevent it from starting on launch.



Step 4 Next you need to look through the list and decide which programs you really need to have starting up at launch, paying particular attention to any high impact apps. Things like iTunes Helper and cloud storage apps are prime examples.

Name	Publisher	Status	Start-up impact
Adobe Updater Startup Utility	Adobe Systems Incorpor...	Enabled	None
BIOS detect tool	DeviceVM, Inc.	Enabled	None
Dropbox (3)	Dropbox, Inc.	Enabled	High
Dropbox Update (3)	Dropbox, Inc.	Enabled	Low
EPSON Status Monitor 3	SEIKO EPSON CORPORA...	Enabled	None
GamingMouseEditor.exe		Enabled	None
Google Drive (2)	Google	Enabled	High
iTunesHelper	Apple Inc.	Enabled	None
Microsoft OneDrive	Microsoft Corporation	Enabled	High
NVIDIA Backend	NVIDIA Corporation	Enabled	Low
NVIDIA Capture Server Proxy	NVIDIA Corporation	Enabled	None
Program		Enabled	None
Realtek HD Audio Manager	Realtek Semiconductor	Enabled	None
Sony PC Companion	Sony	Enabled	None
USB 3.0 Monitor	NEC Electronics Corpora...	Enabled	None

Step 7 Once you've been through the list and disabled any apps that don't need to start on launch, close the Task Manager and try restarting your PC. You should find that it now boots up more quickly.



Step 5 To disable an app, select it and click on the Disable button at the bottom of the window. If you're wondering which apps it's safe to disable, the answer is all of them; Windows will still run, however it's best to leave your security app as an enabled start-up item.

Name	Publisher	Status	Start-up impact
Google Drive (2)	Google	Enabled	High
iTunesHelper	Apple Inc.	Enabled	None
Microsoft OneDrive	Microsoft Corporation	Enabled	High
NVIDIA Backend	NVIDIA Corporation	Enabled	Low
NVIDIA Capture Server Proxy	NVIDIA Corporation	Enabled	None
Program		Enabled	None
Realtek HD Audio Manager	Realtek Semiconductor	Enabled	None
Sony PC Companion	Sony	Enabled	None
USB 3.0 Monitor	NEC Electronics Corpora...	Enabled	None

Step 8 Whenever you install a new app it's a good idea to check the start-up list again to make sure that it hasn't added itself to your launch process; if it has, simply disable it to maintain your fast boot-up time.

Name	Publisher	Status	Start-up impact
EPSON Status Monitor 3	SEIKO EPSON CORPORA...	Disabled	None
GamingMouseEditor.exe		Disabled	None
Program		Disabled	None
Sony PC Companion	Sony	Disabled	None
NVIDIA Capture Server Proxy	NVIDIA Corporation	Disabled	None
iTunesHelper	Apple Inc.	Disabled	None
Adobe Updater Startup Utility	Adobe Systems Incorpor...	Disabled	None
USB 3.0 Monitor	NEC Electronics Corpora...	Enabled	Not measured
Microsoft OneDrive	Microsoft Corporation	Enabled	High
Dropbox Update (3)	Dropbox, Inc.	Enabled	Low
Google Drive (2)	Google	Enabled	High
NVIDIA Backend	NVIDIA Corporation	Enabled	Low
BIOS detect tool	DeviceVM, Inc.	Enabled	Not measured

Turn Off Unnecessary Visual Effects

Windows 10 has fewer visual effects in its default set up than either Windows 7 or 8 did but it still has a number of subtle effects that take up processor power. If you are using a powerful PC, this shouldn't be a problem but if you feel your hardware is struggling, you can do something about it.

A lot of your PC's resources are used up presenting you with the high resolution display interface that makes a modern computer so easy and pleasant to use. Old computers from the 1970s and early 1980s used minimal text based interfaces that you needed a degree in computer science to understand, but which used virtually no resources to run, leaving all the system's limited resources for running software and processing data. When Windows and other graphical user interface (GUI) operating systems such as Apple's Mac OS came along in the mid 1980s they made computing a lot more accessible for the domestic user by presenting an easy-to-understand operating environment but required a lot more of the system's power to run them.

While earlier versions of Windows had quite a stark and utilitarian appearance, mostly due to the limited graphical capabilities of older PCs, successive versions have added more and fancier graphics. Windows 7 was a prime example, introducing a number of clever visual effects to the interface to take advantage of the increased performance of modern computers. The bells and whistles it added included such things as partial transparency of window borders and the task bar, smooth animations to open and close windows and drop

shadow effects around windows and under the mouse pointer. While these certainly looked very pretty and gave Windows a pleasing high-tech look, users quickly realised that these effects were having a significant impact on their system performance and so many users disabled them, preferring a Windows environment that looked more like Windows 98 but had all the performance advantages of the latest version. When Windows 8 came along things got even worse. The infamous Start screen with its partial transparency and flashy backgrounds was a notorious resource hog but unfortunately it was very difficult to do anything about it, which was one of the many reasons why Windows 8 was so unpopular.

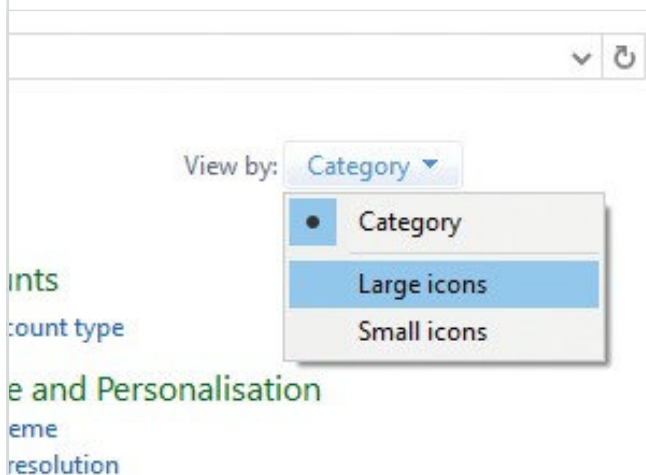
Windows 10 has definitely cut back on the pretty but excessive graphical effects, opting for a simpler, cleaner looking interface that looks more like Windows 7 than 8. However there are still a lot of visual effects that are being used, it's just that they're a lot more subtle. The drop shadow effect is still there around the active window and there are lots of little animations, such as the smooth way that windows open. Fortunately Windows 10 is a lot more accessible than 8 and provides options to customise which visual effects it uses.

Advanced System Settings

You will need to delve into the advanced settings for this guide, making obvious the strange split between interface and system settings that was introduced in Windows 8 and continued in Windows 10.

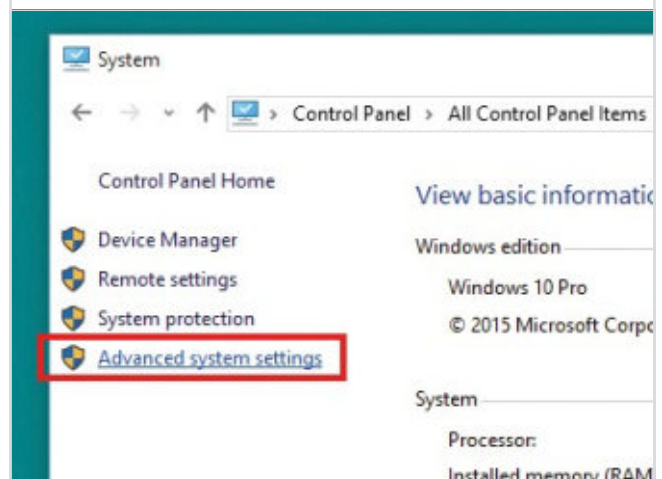
Step 1

Right-click on the Start button and select Control Panel. When it opens, select one of the two icon views from the upper right drop-down menu.

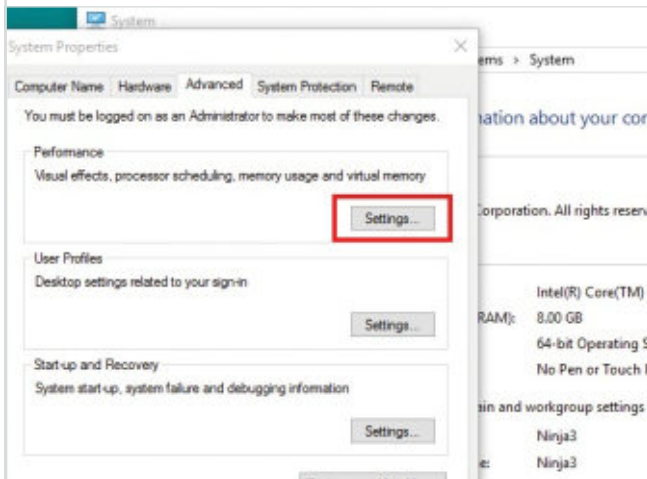


Step 2

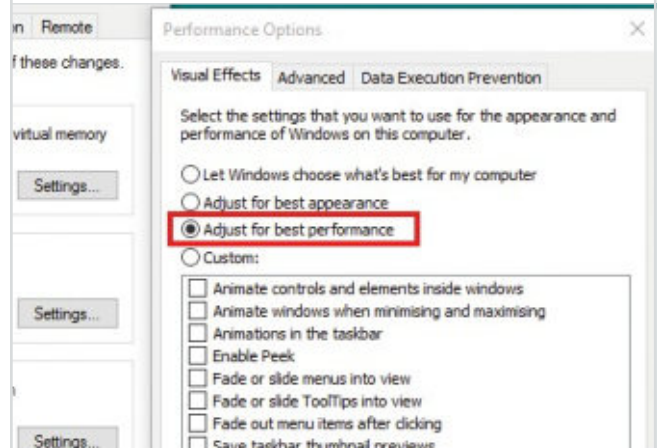
Click on the System icon and in the window that opens click on the Advanced System Settings link on the left side bar.



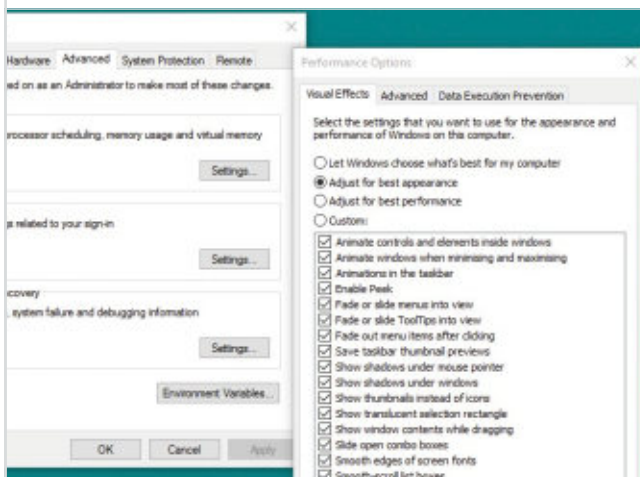
Step 3 In the System Properties window that opens, click on the Advanced tab, then click on the Settings button in the Performance section at the top of the window.



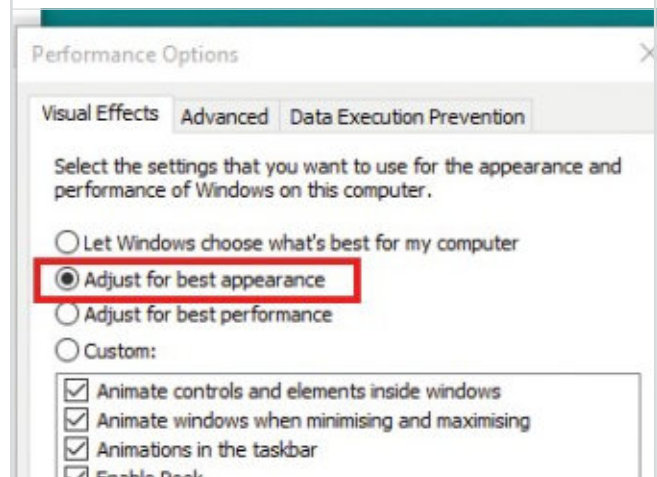
Step 6 If your PC is close to the minimum spec to run Windows 10, you can get the most out of it by clicking the button labelled “Adjust for best performance”. This deactivates all the visual effects in the list, reducing the strain on your processor.



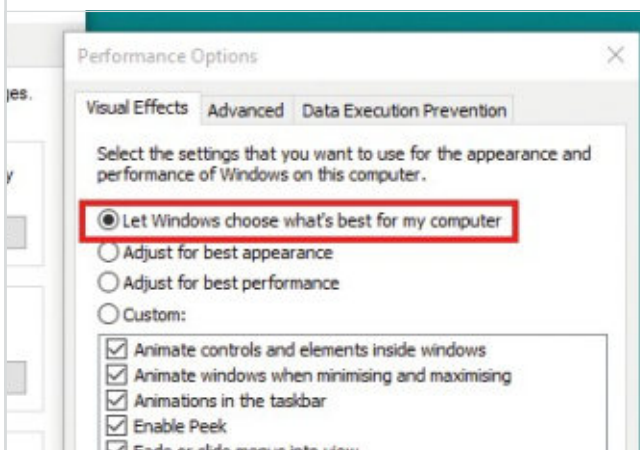
Step 4 You'll see the Performance Options window appear, which you've probably never seen before. In the Visual Effects tab it lists all the advanced appearance settings and effects.



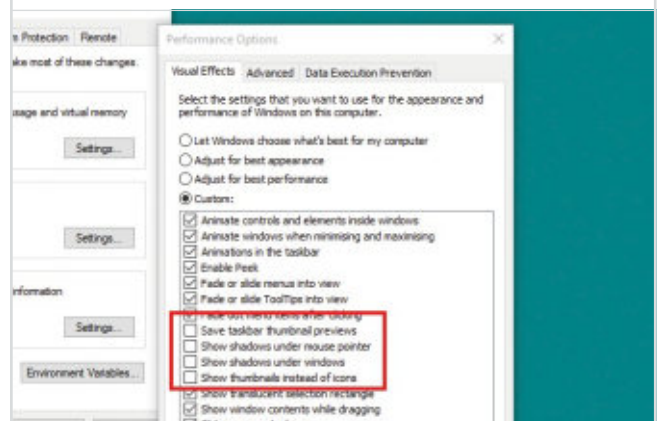
Step 7 If you have a powerful system and want all the bling that Windows 10 can provide, click on “Adjust for best appearance”. This turns on all available visual effects.



Step 5 Above the list you'll see four buttons, labelled “Let Windows choose what's best for my computer”, “Adjust for best appearance”, “Adjust for best performance” and “Custom”. By default the first one is activated.



Step 8 If you want to decide for yourself, click in the check-boxes down the left of the list to manually activate or deactivate the effects that you want. The most demanding are the drop shadow effects and thumbnails, so you can turn these off.



Remove Windows 10 Bloatware

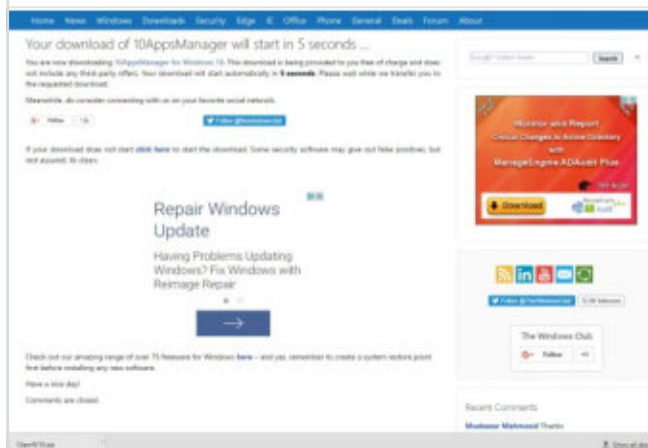
Enabling free upgrades to Windows 10 for existing Windows users has resulted in an increase in bloatware, similar to that seen on Android. Whilst none of the bloatware included with Windows 10 is harmful, it can have an effect on performance. Thankfully there are ways to remove most of it.

Working with 10Apps Manager

Adding software to remove other software may seem counterintuitive but often this is a safer and faster way to clean up bloatware than trying to remove it manually, especially if you are not used to doing it.

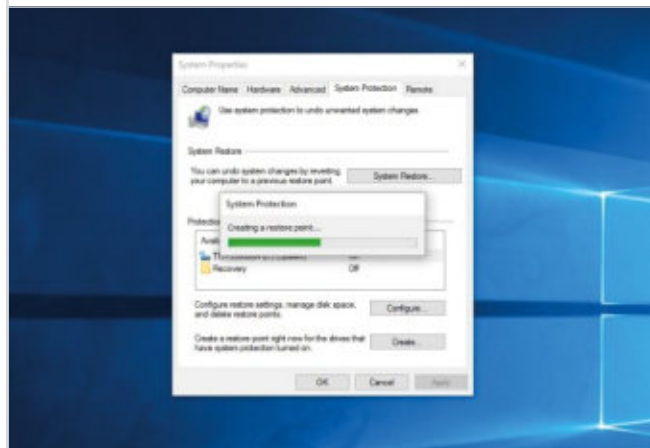
Step 1

You can download the 10Apps Manager software from a variety of file download sites or you can get it directly from the creators at The Windows Club (www.thewindowsclub.com). It should be free wherever you download it from, so don't be fooled into paying for this software.



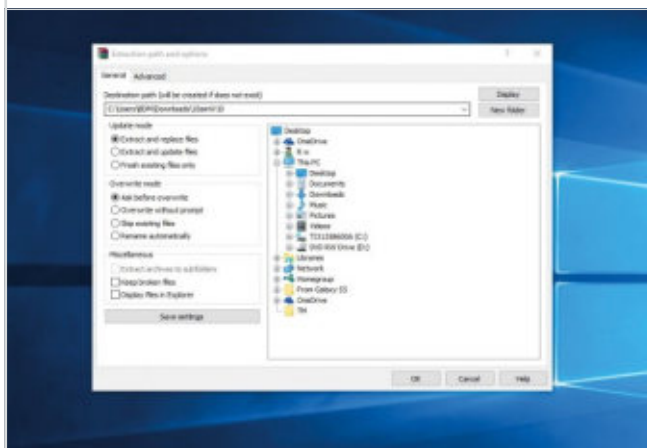
Step 3

As when making any large system changes to your computer, you should create a system restore point first. You can do this via Start menu > Control Panel > System Properties > System Protection. Configure the restore settings and click "Create".



Step 2

Extract the contents of the downloaded 10Apps Manager zip file and place the folder in your Program Folder and pin the shortcut of its .exe file to your Start menu. Do not separate out the contents of the Program folder. You don't need to install the software.



Step 4

You can now double-click the 10Apps Manager .exe file to open the software on your computer. The extremely simple main interface will now open. Each of the tiles represents a piece of preinstalled software that you can uninstall if you have no use for it.



Step 5

Click on any of the tiles and then confirm that you want to uninstall the app. You may need to wait a few seconds for the process to complete. You can delete as many preinstalled apps as you wish but if an app does not appear as a tile on the screen, you won't be able to add it.

**Step 6**

You can reinstall any of the apps you uninstall through 10Apps Manager. The only slight annoyance is that the software doesn't remove or alter the tile once the app is uninstalled, so it is a good idea to make a note of which apps you remove from your system.

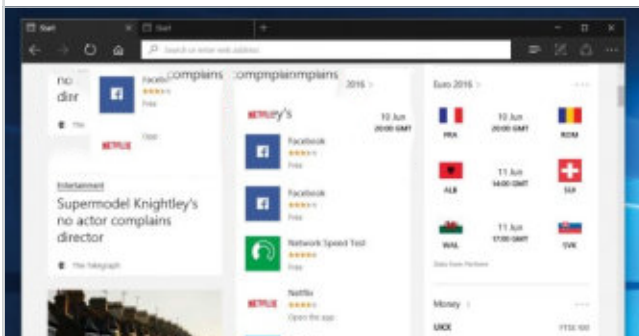


Disabling Other Features

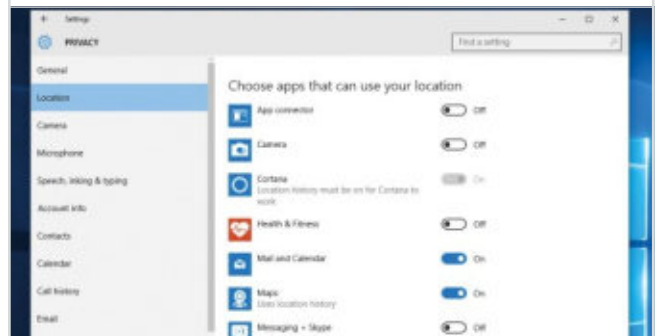
There are several other features that, although not technically bloatware, might not be doing your computer performance any favours. Let's take a look at some of the worse offenders.

Targeted Ads

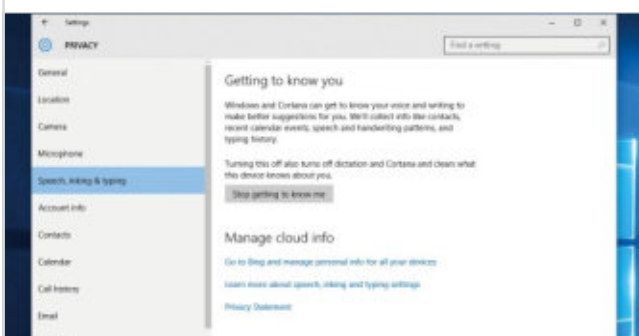
Windows 10 assigns every user a unique advertising ID to make it easier to provide you with targeted adverts. While this cannot be removed, it can be disabled. Head to the "General" tab in Windows 10's Privacy menu. Disable the topmost toggle switch labelled "Let apps use my advertising ID ..."

**App Location Access**

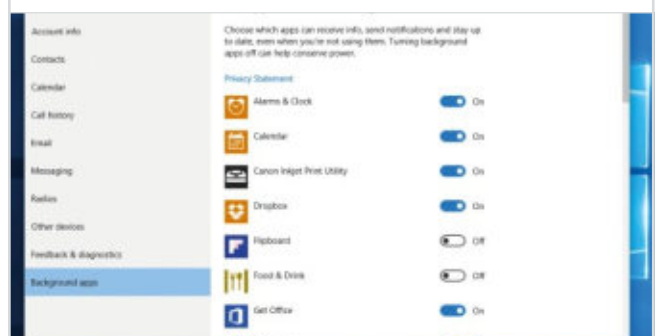
Windows 10 third-party apps can access your location, webcam, microphone and more by default. Not all apps require these permissions. Go to Start menu > Settings > Privacy > Location and remove those permissions that seem unnecessary. Repeat for things like camera and microphone.

**Getting to Know You**

Meant to streamline the new Windows 10 user experience, the Getting to Know You feature records logs of your typing history, saves recordings of your voice, collects information from your contacts etc. Go to Start menu > Settings > Privacy > Speech, linking & typing > Stop Getting to Know Me.

**Background Apps**

This last option seems simple but it can make a big impact in terms of battery life and performance. From the Privacy menu, scroll down to the bottom of the menu, then select the "Background apps" option. From here, simply use the toggle switches to prevent these apps from running on start up.



Defragment Your Hard Drive

Over time the data stored on your hard drive may get fragmented and become slower for your system to access. Periodically you should do something about this fragmentation or it will just continue to get worse. Using the built-in Windows utility to tidy it up can improve performance.

While hard disk drives provide cheap, fast and reliable bulk storage for digital data, they do suffer from one major problem. Using protocols that date back to the days when computer data was stored on big reels of magnetic tape, data is written onto the hard drive sequentially, so that it's faster to read off again. This is fine at first since the data is stored in neat blocks or sectors that it's easy for the system to find. A brand new hard drive will use its storage space efficiently for optimum performance, saving files in a neat orderly sequence. However over time you'll inevitably delete some files, or replace others with larger ones, and the hard drive tries to cope with these changes by splitting data files up to fit into available empty space on the drive. This can mean that your files are broken up into pieces scattered all over the drive, which can radically slow down access times both when saving data and when you come to read the data from the drive. The system doesn't lose the data but a hard drive is a mechanical device with moving parts, and the physical process of moving the read-write head to and fro over the drive platter from one sector to another takes a finite amount of time, and the more the head has to move the slower the access time will be. After a few years of heavy use a hard disk drive can become so fragmented that it slows to a near crawl as the system

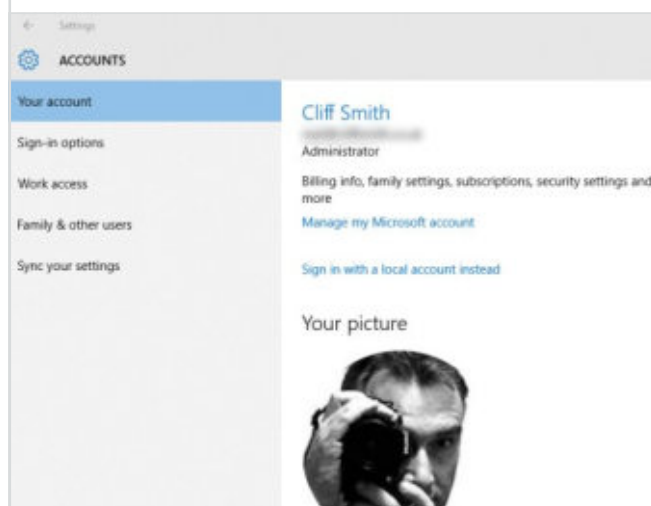
struggles to access the scattered chunks of data. This is one of the reasons why solid state drives (SSDs) are becoming more popular. Since they don't have any moving parts their data retrieval speeds should remain consistently high regardless of how much data is stored or how often it is changed. See the previous sections of this publication if you'd like to upgrade your system to use an SSD.

Fortunately Windows includes an option to "defragment" your drive. This is an automatic process that reorganises the data on your HDD back into easily accessible contiguous sectors, making the most of the available space and greatly speeding up access times. In earlier versions of Windows this was a manually selected process that you had to remember to perform on a regular basis, but Windows 10 includes an option to automatically perform an optimisation and defragmentation procedure on all attached drives on a regular basis. If your system uses a hard disk, as most do, it's worth performing at least the first five steps of this guide, just to see if your system would benefit from defragmentation. If you're using an SSD it won't need to be defragmented, since SSDs store data in a different way to HDDs but it can still benefit from optimisation.

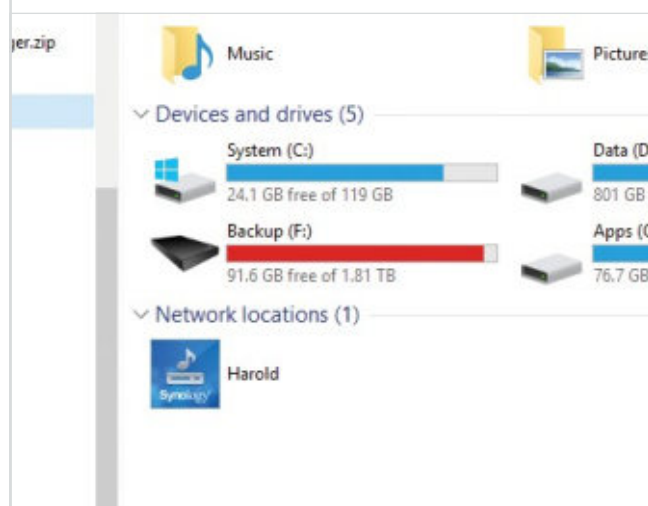
Using the Defragger

Disk defragmentation is best done on a regular basis, as the longer you leave it, the longer the defrag will take. By doing it regularly, you'll avoid the build up of fragments and the process will be quicker each time.

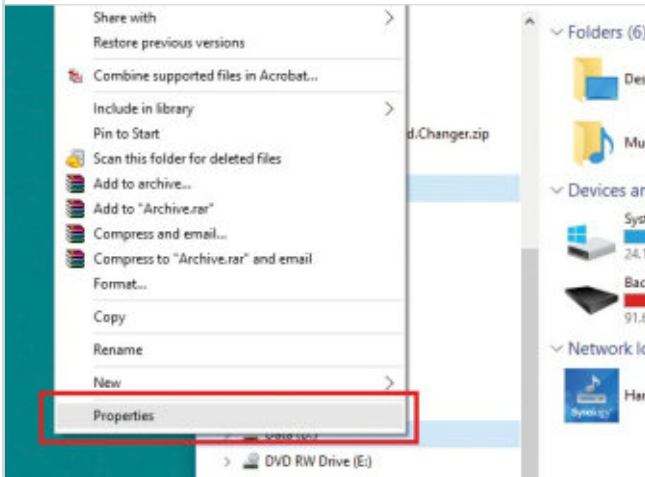
Step 1 Log on to your PC as Administrator. You'll need to be using an Administrator account in order to perform the disk defragmentation process.



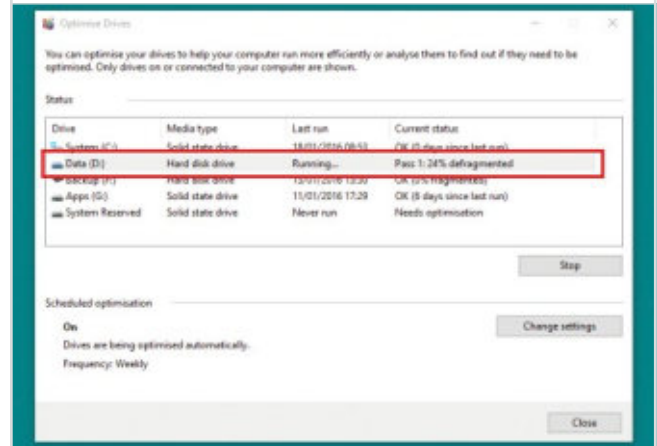
Step 2 Click on the Start button and open File Explorer. Expand the This PC file tree so that you can see the list of drives on your system.



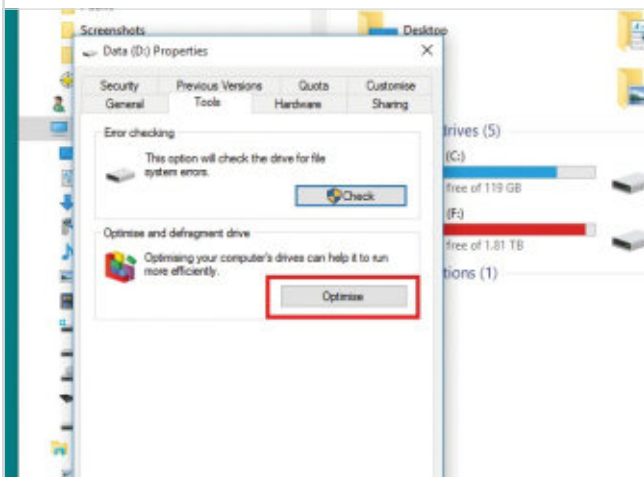
Step 3 Right-click on any drive in the list and select Properties. You'll see in a moment that it doesn't matter which drive you select at this stage.



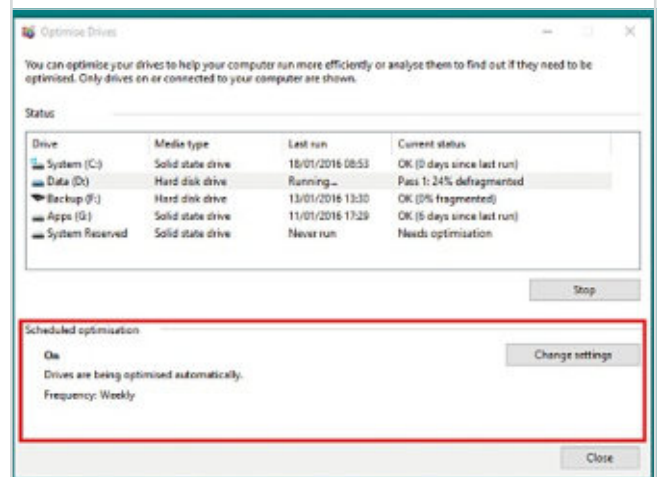
Step 6 If any of your hard disk drives are fragmented, click on it and then click on the Optimise button. If it's a large drive and very fragmented the process could take a long time, so only do it if you're not going to be using your PC for a couple of hours.



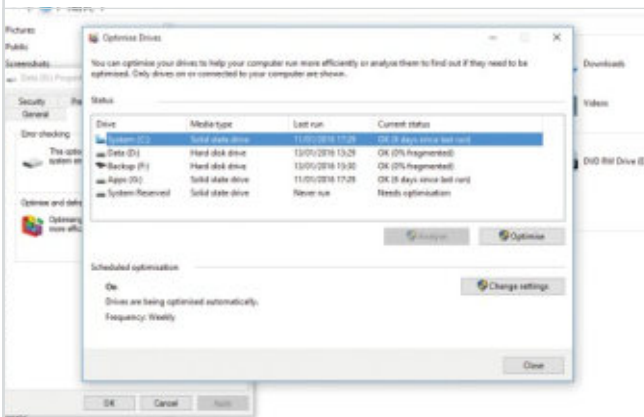
Step 4 In the Properties window, click on the Tools tab. You'll see that there are two options available. Click on the button for the second one, "Optimise".



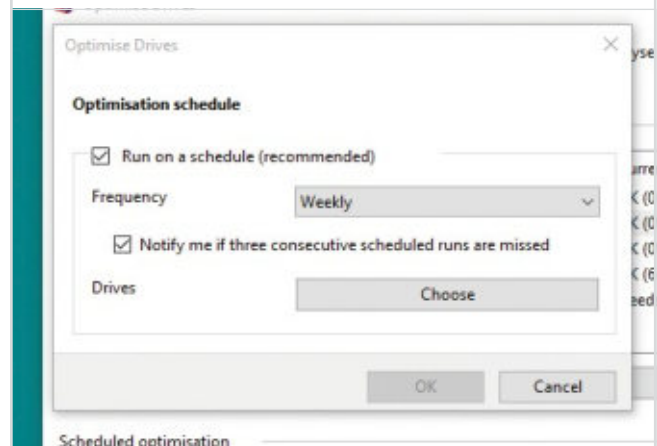
Step 7 In the lower part of the Optimise Drives window you'll see Scheduled Optimisation. This should be set to On by default but if it isn't click on the Change settings button.



Step 5 This will open the Optimise Drives window. Here you'll see another list of all the drives attached to your system, when the optimisation routine was last performed on each one, and how fragmented it currently is. If your system is operating at peak efficiency they should all be at 0%.



Step 8 You can set your drives to be automatically optimised by ticking the Run on a schedule check box and select the interval; for systems used every day a weekly check is recommended.



Using the Task Manager

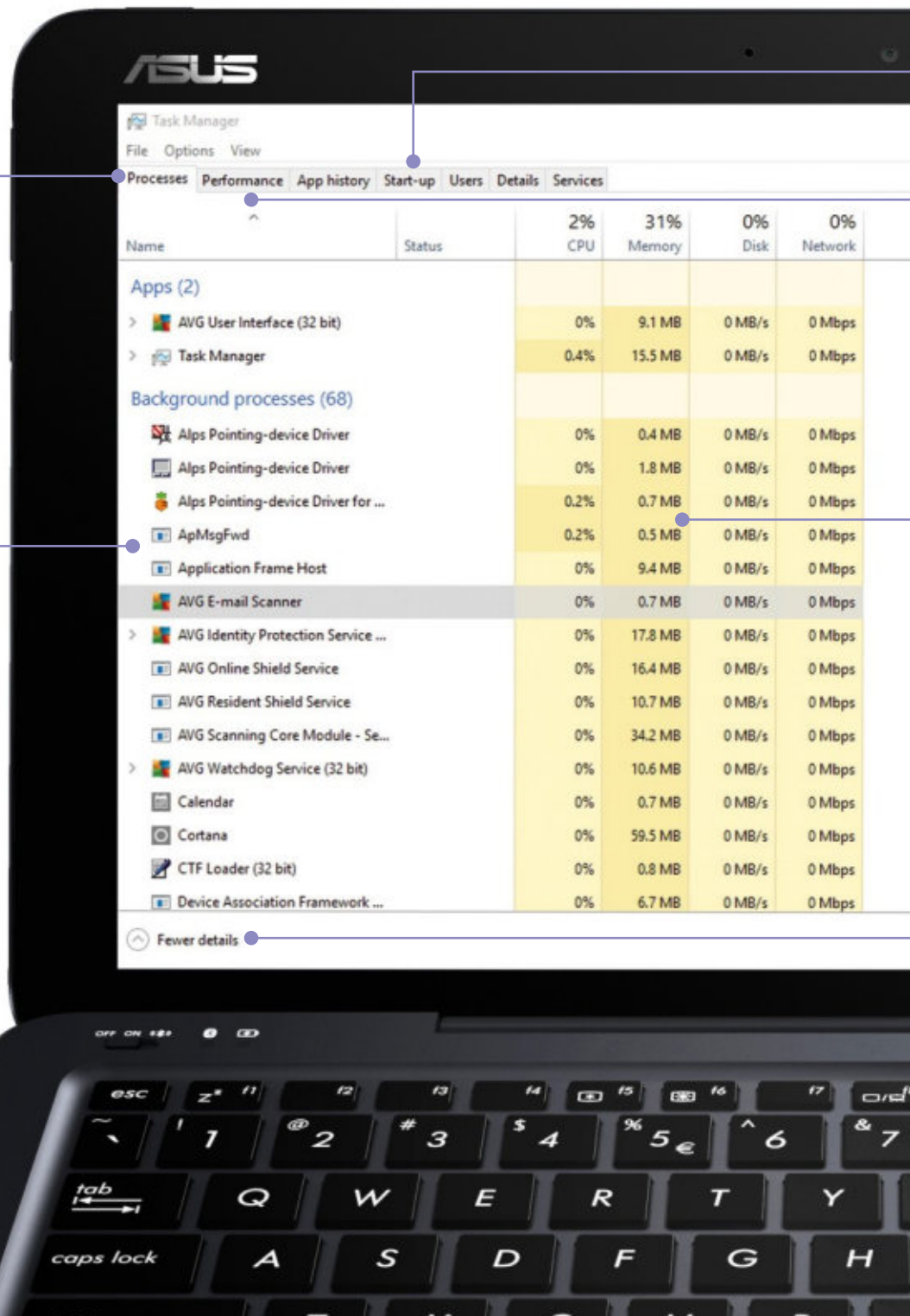
The Task Manager is a very useful tool but even if you have been using Windows for some time, you might never have looked at it before. The Task Manager contains information on PC performance, the number of running apps, how many processes are pulling power from the processor and much more.

Processes Tab

The Processes tab is the default tab when the Task Manager is opened. You can open the task manager by simply searching for it in the main search panel. Just as with any other app or piece of software in Windows 10, you can pin a shortcut to the Task Manager, to the taskbar or as a desktop icon.

Process List

With the Processes tab selected, a list of all processes is shown. Processes are bits of software that run in the background, either running or waiting to run when a corresponding action is taken. As you can see from the list here, things like Cortana and AVG are shown; these you would obviously want to leave.



Start-up Tab

The Start-up tab contains a list of all the apps, programs and processes that are enabled every time you start your computer. If your computer is brand new, this list should be fairly small and filled with essential items. But as you install new apps and software, this start-up list can become bloated and slow down boot up. You can disable auto start-up here.

VIEW OPTIONS

The View options at the top of the Task Manager window allows you to do several things. You can manually refresh the current tab and also change the automatic update speed. For example you can change how the processes are displayed. Either by grouping them by type, expanding or collapsing the list, or showing status values.

Performance Tab

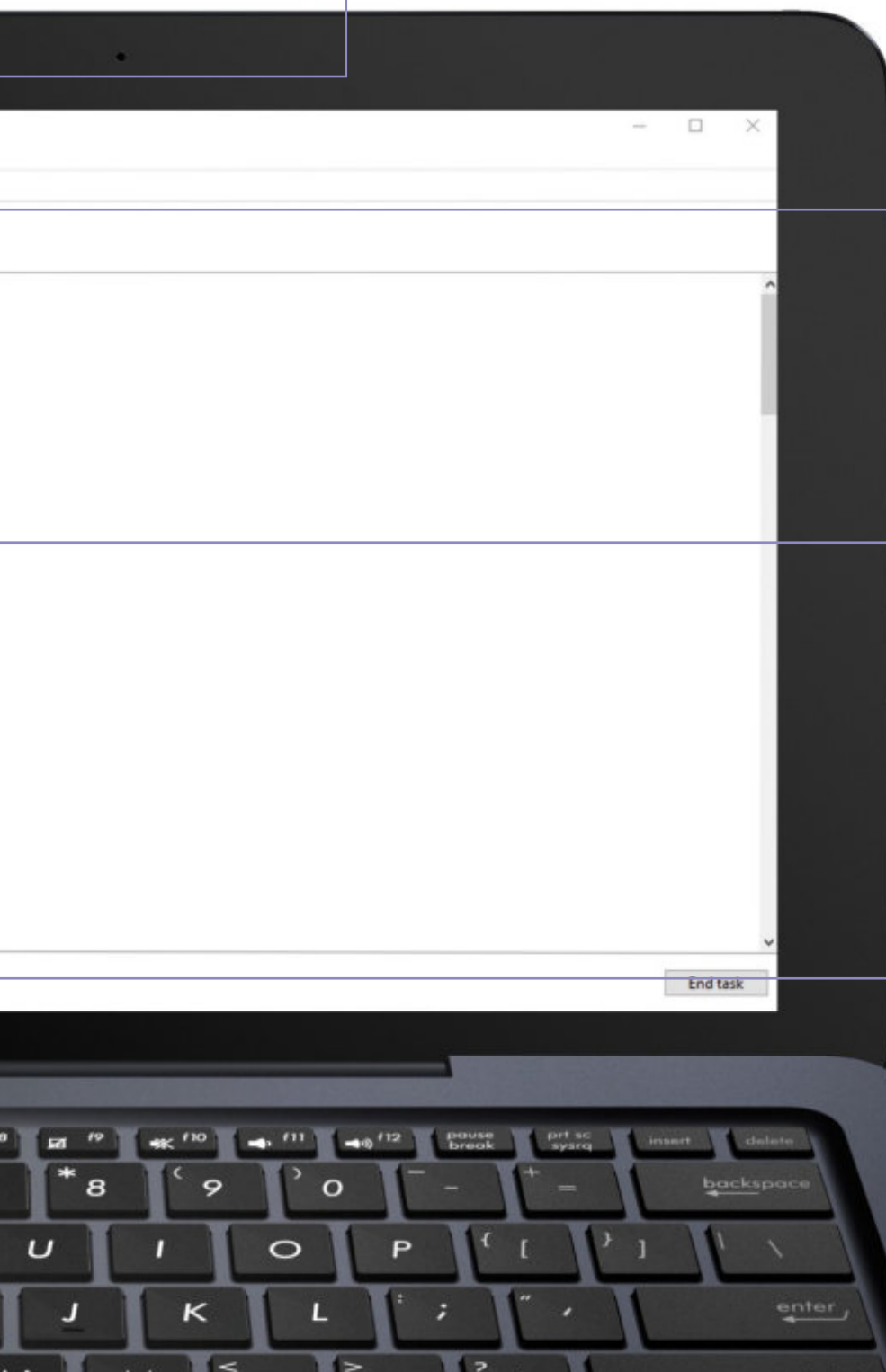
Another useful tab in the Task Manager is Performance. This gives you a real time performance overview, allowing you to pinpoint exactly how well your hardware is coping with whatever you are doing at the time. If Task Manager is the only app open, the performance chart should be very stable but if you are running several apps, it will show any power spikes.

Resource Usage

If you find your PC becoming slow and sluggish during normal use, you may have too many processes running. By looking at the resource usage chart, you can see exactly which apps are taking up the most processing power, physical memory, disk space and even network bandwidth. If something is particularly resource hungry, you can right-click and stop it.

Fewer Details

You can view a limited version of the Task Manager by clicking on the “Fewer Details” button at the bottom of the window. This makes the window small enough that it can be left open, in the corner of your desktop for example, but still show relevant information. You can get more information at any time by clicking “More Details”.



Manage Your Background Tasks

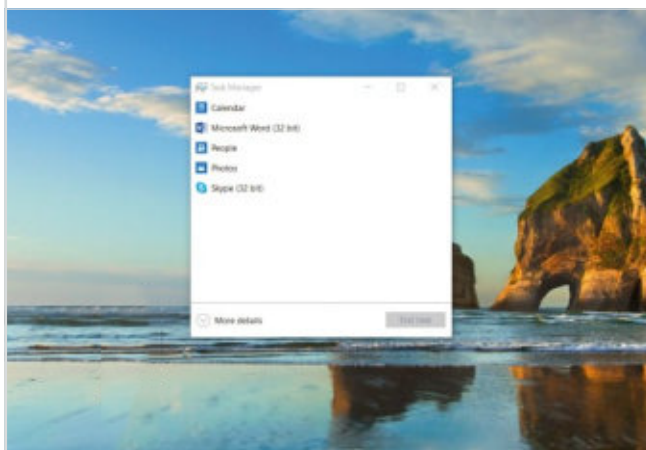
If you have a program that isn't working, want to control what starts up when your PC does or you want to see what's running on your PC, then Task Manager is the place to go. Access it via the Power Menu (right-click on Start) or by pressing Ctrl+Alt+Delete and selecting it from the Security Options menu.

Manage Your PC

Task Manager is a lot more complex than it used to be and it's now a useful insight into your PC system and app performance. If you want to take the first step into maintaining your PC, check out our step-by-step guide.

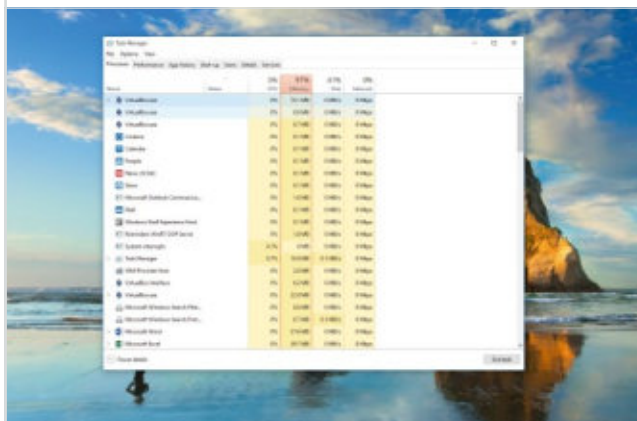
Step 1

Task Manager starts life as this fairly unassuming little window. If you have an app that is unresponsive, select it and click End Task. Beware that if you do this to an app with unsaved work in it, you will lose your work. Clicking the More Details button will expand the Task Manager window.



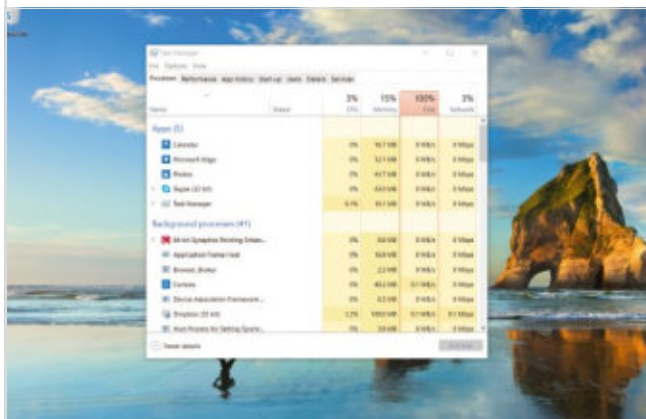
Step 3

You can see what system resources each app is using in each column. Here Excel is using around 74MB of memory, for example. Memory use is almost at its maximum, as you can see at the top of the column. Maxed out resources are no bad thing – after all your PC is there to be used – but when apps crash, they are usually using resources and not relinquishing them.



Step 2

This window is a little more complex, but the 'Apps' part of the window is essentially what we were looking at in Step 1. Now the apps have been joined by background processes. Your PC will most likely be running tens of these unless it's box-fresh. Here we've got 41. These are things such as Cortana, which runs in the background, and our trackpad software.



Step 4

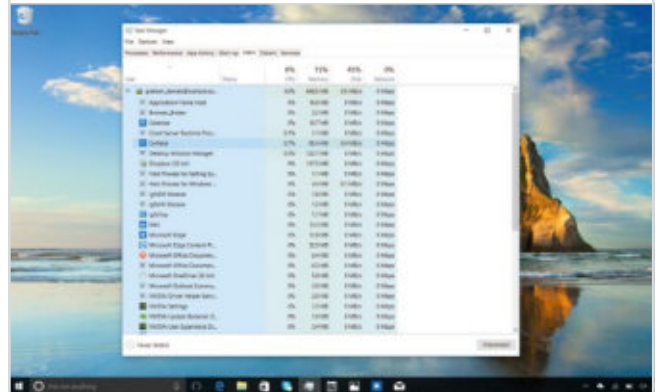
If an app crashes, then you need to select it and click End Task as before. You should always try and give it time to recover (especially if you will lose work). Now we've clicked the Performance tab at the top of the window and we can see the usage of important elements of our PC.



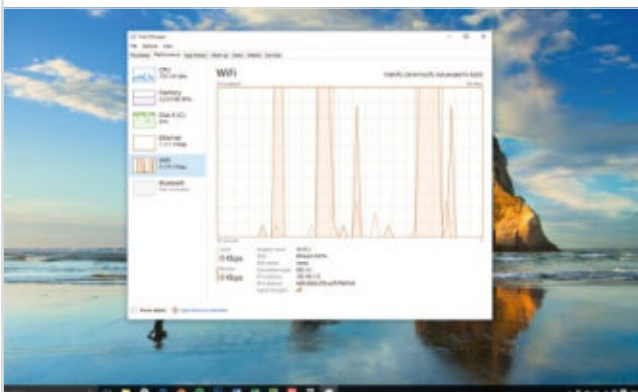
Step 5 Here's our disk usage – as you can see it's pretty active! You will also have this if you have several big apps open (we've got Edge, Spotify, Word and Excel open in this example). In the previous step you could see our processor usage, and as you may have noticed, we've only been using around 40 per cent of its capability during the last minute.



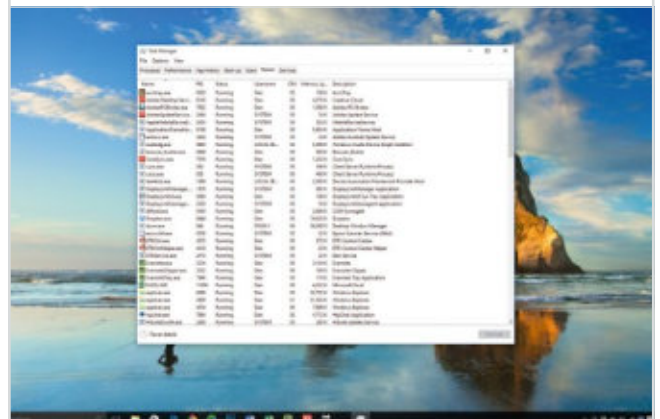
Step 8 Although it's of limited general use, the Users tab details what apps and processes are running on a per-user basis. This might be useful if your PC is running slowly and you want to see what resources someone else who is logged into the PC is hogging. They might have something wasteful running in the background, for example.



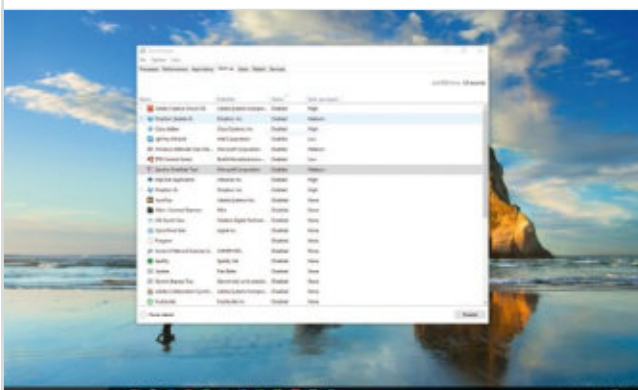
Step 6 Wi-Fi usage (you can also see wired network usage if you use that to connect) is more sporadic as the network connection tends to be used intermittently – unless you're copying files or similar. Here we're streaming music, which appears to download in chunks. Notice there's no data being received or sent right at this moment.



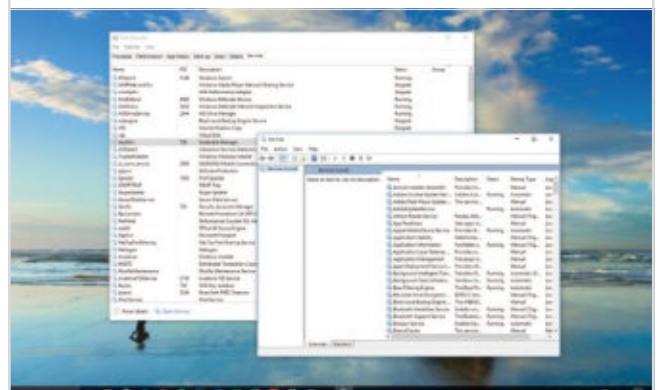
Step 9 The Details tab is really for pro users only and has full information on each running process and which user is responsible for it. You can also see how much resource the process is taking up as well as what is called a Process ID, or PID, that identifies the process on your machine.



Step 7 The Startup tab is one of the most important in Task Manager. While you can configure an app such as Skype to start up when Windows does and disable the same within the app, some applications are sneaky and enable themselves to start when Windows does. Here you can select the app and either enable or stop this from happening.



Step 10 Services are programs that run in the background. The chances are your PC is running lots of them. For example Windows Defender, the built-in security software, runs in the background as a service. As well as viewing the active services in Task Manager, you can click the Open Services link to manage services on your PC.



Upgrading Your RAM Modules

The more memory you have and the faster it is, the faster Windows will perform. Adding RAM is one of the best ways to improve the speed of an older PC system. Fortunately adding more RAM to your desktop system is usually a fairly easy upgrade, one that most people can complete.

If your PC is close to the minimum specification to run Windows 10, one of the simplest things you can do to improve its performance is to install more or faster RAM (random access memory). RAM is the memory that your system uses when it's working, to perform calculations, store temporary data and run the operating system. It's relatively cheap to buy and you can find it for sale at any good computer store or from many places online. Installing extra RAM does mean opening up the case of

your PC and tinkering with the insides, but it's a very quick and easy operation, requires no specialist knowledge and can usually be done without special tools. If you're not confident that you can do it, most computer retailers will be happy to do the work for you for a small fee. Most computers will have spare memory module slots to add extra RAM, but it's generally a good idea to replace old RAM with new rather than adding more to the existing modules.

Things you'll need:

- The manual or specification sheet that came with your computer
- A small cross-head screwdriver
- A nearby water pipe, radiator or other earthed metal fitting
- New RAM memory modules

DISCLAIMER

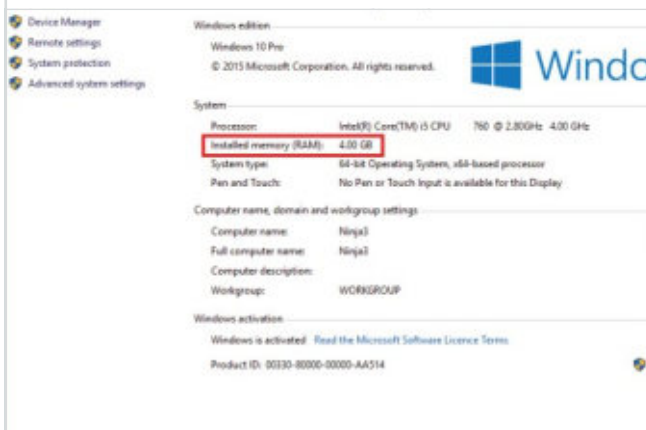
Opening up your PC and making alterations to its internal components carries the risk of damaging your PC, as well as the personal risk of injury or electrocution if you do not take the necessary precautions. You may also void the warranty on your equipment. If you are not completely confident that you can carry out this operation safely DO NOT ATTEMPT IT. You do so entirely at your own risk; Black Dog Media cannot accept any responsibility for any damage or injury to yourself or your property as a result of following this tutorial.

Matching RAM

It may not be possible, or within your budget, but it is always better to run a matched set of memory modules in your PC. When buying RAM, for example 8GB on two 4GB sticks, look for the words 'Matched Pair'.

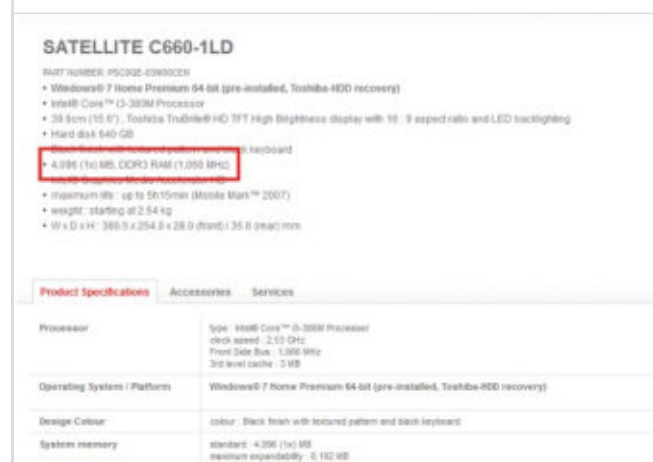
Step 1

Right-click on the Start button and select System. A screen will appear that tells you information about your computer. Half way down the page you'll see "Installed memory (RAM)" followed by a figure in gigabytes. This is the amount of RAM you currently have.

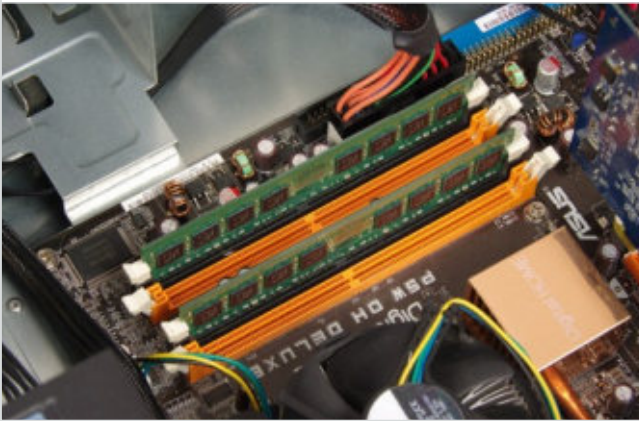


Step 2

Check the specifications in the manual or booklet that came with your PC, or on the manufacturer's website, to find out what type of memory it uses. Most modern PCs and laptops use a type called DDR3 with a speed of 1600MHz.



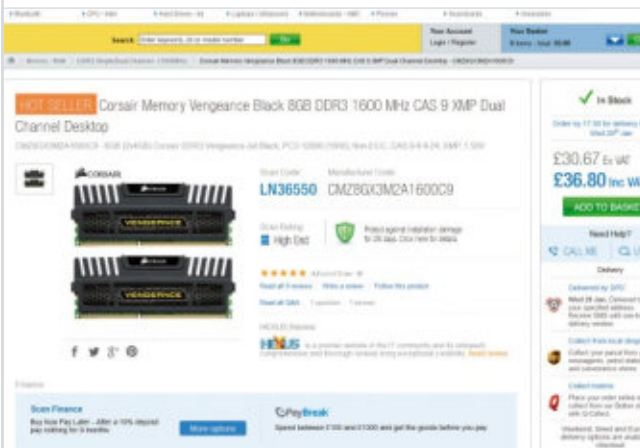
Step 3 Most popular mid-range desktop PCs will come with 4GB of RAM, usually on two 2GB modules, while most laptops will have a single 4GB module. You can upgrade these to increase the amount of memory that your system has to work with. Ideally you want at least 8GB.



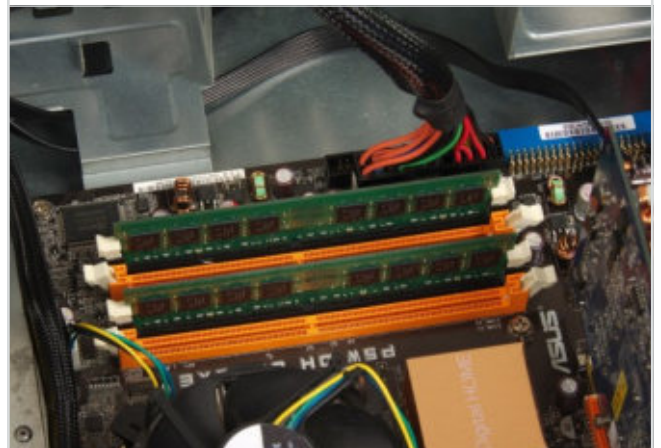
Step 6 For a desktop PC, lay the computer on its side, and open the side of the case so that you can access the motherboard. You may need a small screwdriver to remove a few case screws, but many cases open without tools. Don't lose the screws!



Step 4 Visit your local computer retailer or shop online and buy either two 4GB or one 8GB module of 1600MHz DDR3 RAM. Note that desktop PCs and laptops use different sized modules, so make sure you buy the right one!



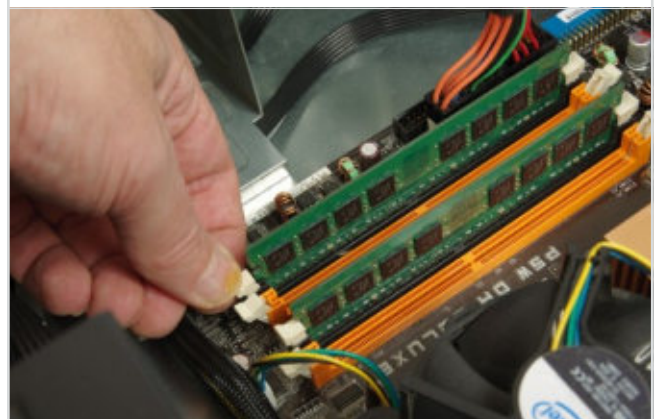
Step 7 You'll see the RAM modules located in a row of slots on the motherboard. Most PCs have four slots, two of which will be occupied by your current RAM modules. You'll see that they're held in place by plastic clips at each end.



Step 5 Shut down your PC and unplug it from the mains, disconnect the mouse, keyboard, monitor and any other attached devices, then leave it for half an hour to ensure that residual voltage in any capacitors has dissipated and any hot components have cooled down.

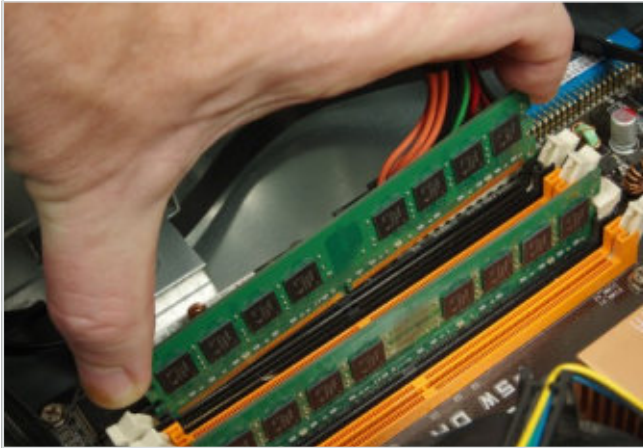


Step 8 Before touching any internal components, earth yourself by briefly touching a radiator water pipe to dissipate any static charge. Using the tip of your finger push the retaining clips open one at a time. You'll see that they partially lever the modules out of their slots.



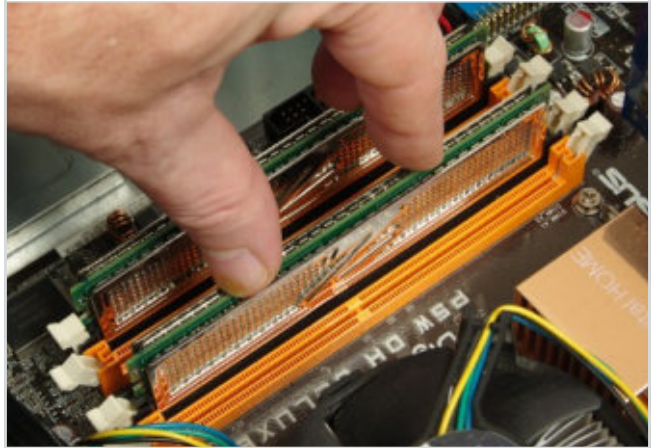
Step 9

Holding the modules by the ends, carefully lift them out of their slots. You may need to pull them gently to free them. Note the position of slot in the tab with the gold contacts, and the corresponding gap in the module slot.



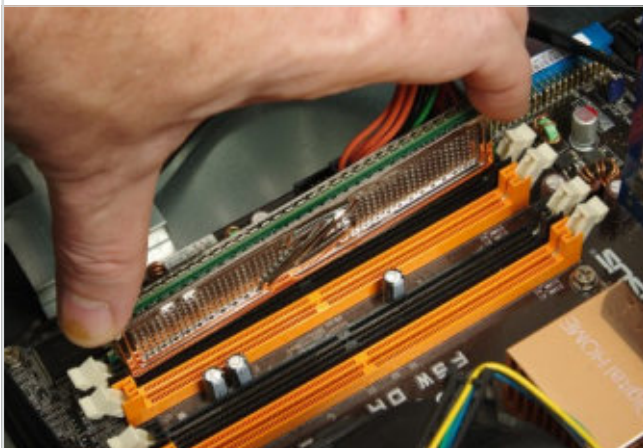
Step 12

Repeat this for the second new module if you bought one. Then you can close up the case, reconnect your mouse, keyboard, monitor and any other devices, plug it back in to the mains and switch it on.



Step 10

Taking care not to touch the metal contacts, carefully position your new RAM modules in the slot, making sure to line up the slot in the contact tab with the gap in the modules slot, the same as the module you removed.



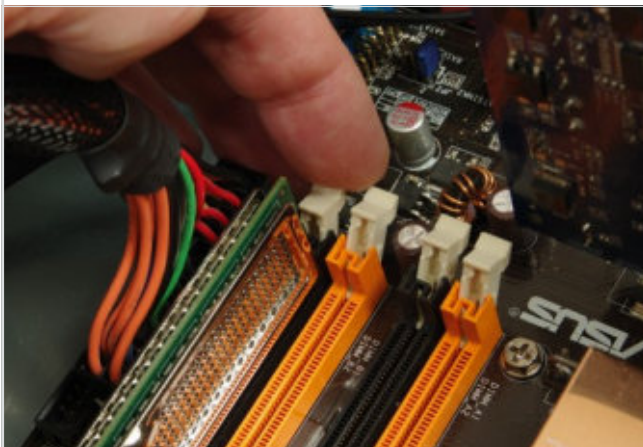
Step 13

For a laptop, close the screen, turn the machine over and locate the memory cover panel. It will usually be near the centre of the case; if in doubt check your manual. You'll need a small screwdriver to carefully remove the panel. Don't lose the screws!



Step 11

Gently push the new module down into the slot. You'll see that the plastic retaining clips partially close as you do so. When the module is all the way in, close the retaining clips to lock it in place.

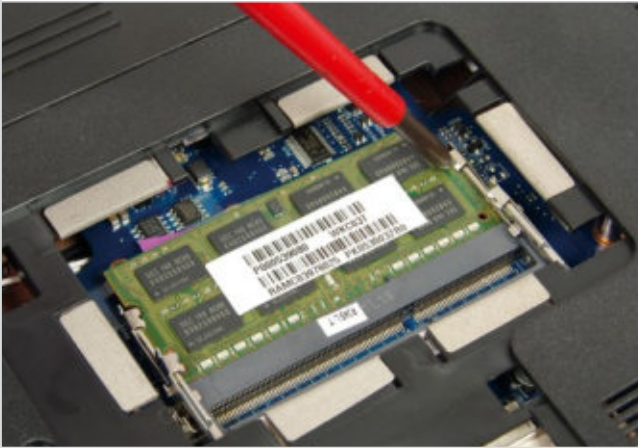


Step 14

Before touching any internal components, earth yourself by briefly touching a radiator water pipe to dissipate any static charge in your body.



Step 15 You'll see that the laptop RAM modules are held in place by small metal or plastic clips. Use the tip of the screwdriver to push these clips aside, and the module will spring up so that it can be removed.



Step 18 Once the module is seated in the slot, push it back down flat until the sprung clips snap into place. Repeat this process with the second module if you bought two.



Step 16 Carefully and gently pull out the old memory modules, noting the orientation and the position of the gap in the contacts tab. If it won't move, check that you've fully released the clips. Don't force it!



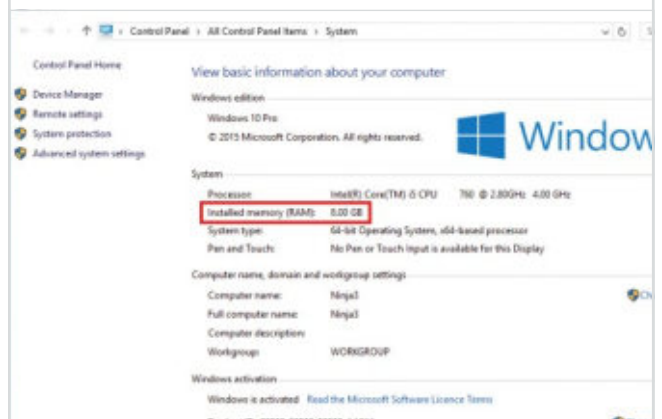
Step 19 Replace the hatch cover and tighten the screws. Turn the laptop back over and turn it on as normal.



Step 17 Taking care not to touch the metal contacts, carefully position your new RAM module in the slot, making sure to line up the slot in the contact tab with the gap in the module slot, the same as the module you removed. Gently push it into the slot.



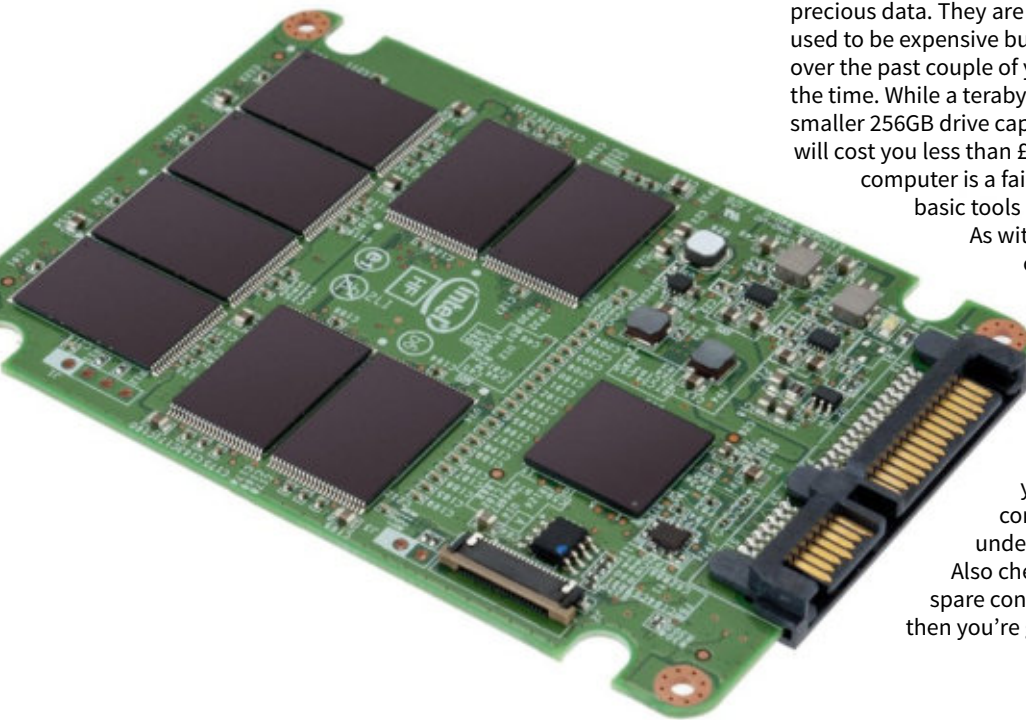
Step 20 When you turn your computer on it will automatically detect the new memory modules and start using them. If you now repeat step 1 you should see that the amount of installed memory has increased and the performance of your computer has dramatically improved.



Upgrade to a Solid State Drive (SSD)

Solid State Drives are a newer, faster and more robust type of data storage device that can easily replace that clunky old Hard Disk Drive in your computer. You can even have a SSD running alongside a traditional hard drive, giving you improved speed without losing storage space.

Hard disk drives have been the most popular form of data storage for computers since the 1960s. While early hard disks were enormous devices the size of washing machines and were prone to failure, modern drives are small, fast and extremely reliable; a good quality HDD, properly maintained and looked after, can last for decades, and some manufacturers even claim that their drive may last a century. With multi-terabyte (1 terabyte = 1,000 gigabytes) HDDs costing less than £200 (\$300) hard disk drives are still the most cost efficient solution for bulk data storage.



However there is a new type of storage drive that is becoming more popular, especially for portable devices such as laptops and tablet PCs; the flash based Solid State Drive. Solid State Drives (SSDs) have several advantages over Hard Disk Drives. They are based on solid state Flash memory, similar to the SD card in your mobile phone or digital camera. They have much faster read and write times than disk drives, which means that Windows will launch and run faster and your apps will load and access data much more quickly. Since they have no moving parts they are much more durable and less prone to damage than the spinning magnetic disk of a HDD, so you're a lot less likely to lose precious data. They are also unaffected by magnetic fields. SSDs used to be expensive but prices have dropped dramatically over the past couple of years and capacities are increasing all the time. While a terabyte SSD is still around £500 (\$700), a smaller 256GB drive capable of replacing your system storage will cost you less than £100 (\$150). Fitting an SSD to your computer is a fairly simple procedure, requiring only basic tools and should take less than half an hour.

As with the RAM upgrade, if you're not confident that you can carry out this procedure safely, your local computer store will be happy to do the work for you for a fee.

Note that older PCs may not be able to accept an SSD. Check the manual or specification sheet to see if your computer has Serial ATA (SATA) connection support. You'll find it listed under "Drives" or "Internal I/O Connectors". Also check that your PC's power supply has spare connectors to power SATA devices. If it does then you're good to go.

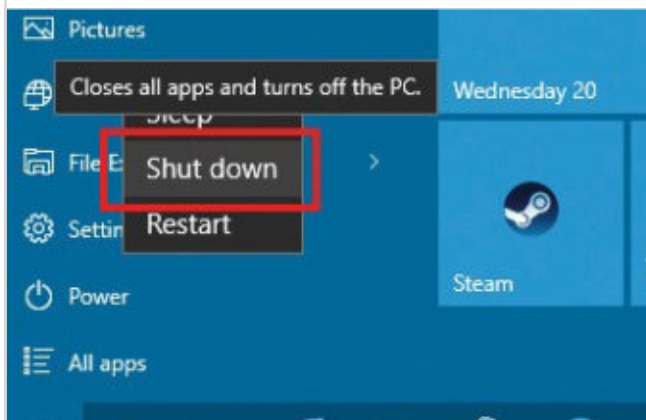
Things you'll need:

- The manual or specification sheet that came with your computer
- A small cross-head screwdriver
- An SSD drive large enough to replace your HD
- A SATA data cable (probably comes with the SSD)
- A small torch is also helpful

DISCLAIMER

Opening up your PC and making alterations to its internal components carries the risk of damaging your PC, as well as the personal risk of injury or electrocution if you do not take the necessary precautions. You may also void the warranty on your equipment. If you are not completely confident that you can carry out this operation safely DO NOT ATTEMPT IT. You do so entirely at your own risk; Black Dog Media cannot accept any responsibility for any damage or injury to yourself or your property as a result of following this tutorial.

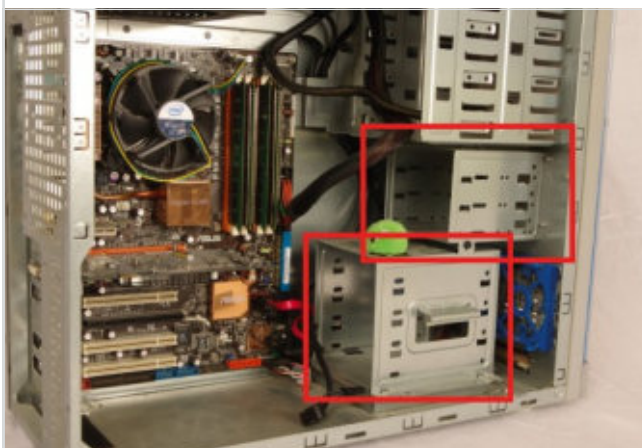
Step 1 Shut down your PC and unplug it from the mains, disconnect the mouse, keyboard, monitor and any other attached devices, then leave it for half an hour to ensure that residual voltage in any capacitors has dissipated and any hot components have cooled down.



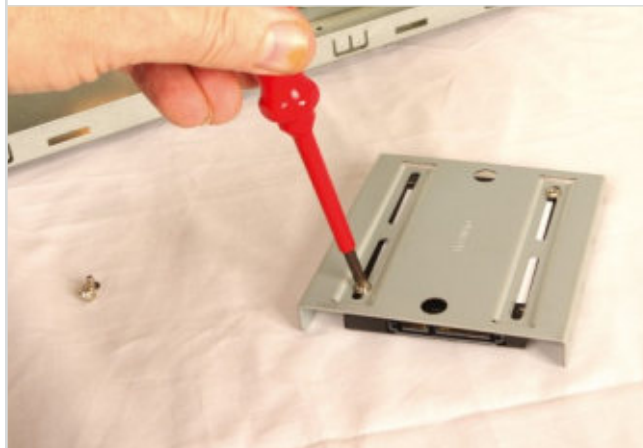
Step 2 For a desktop PC open the side of the case so that you can access the area where the HDD is located. You may need a small screwdriver to remove a few case screws, but many cases open without tools. Don't lose the screws!



Step 3 An SSD can fit into either a 3.5-inch (floppy disk drive) bay or a 5.25-inch (HDD/optical drive) bay. Since many recent PC cases no longer have 3.5-inch bays we'll show how to fit your SSD into the larger 5.25-inch bay.



Step 4 Your new SSD should come with an adapter plate to fit it into a 5.25-inch drive bay, as well as the required fitting screws. The first action is to attach the SSD to this plate. Don't over-tighten the screws or you may damage the drive.



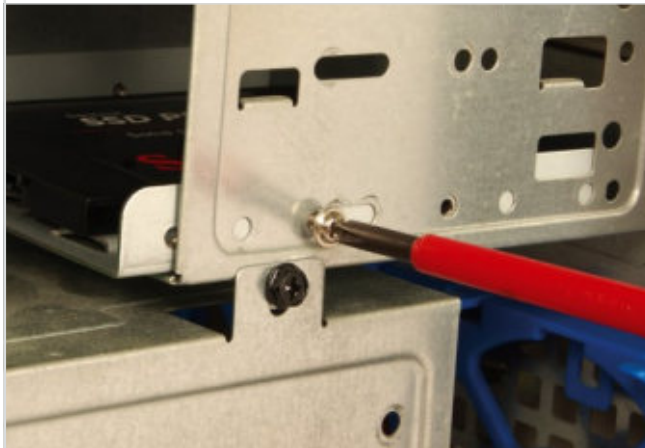
Step 5 Note that one end of the SSD has the connectors on it. You'll need to position the device so that your power and SATA data cables can reach these connectors.



Step 6 Once you've decided on a good position for the SSD within the drive bay, carefully slot the drive on its mounting plate into the drive bay. Position it so that the screw holes on the PC chassis line up with the holes on the mounting plate.



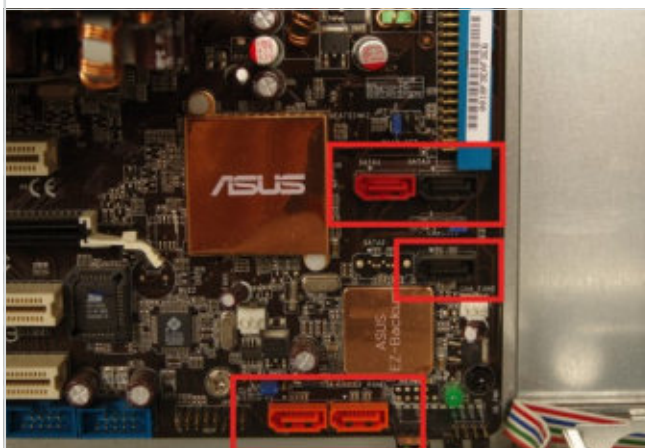
Step 7 Using the supplied mounting screws, fix the mounting plate holding the SSD in position. If you can't easily access all four screw holes don't worry; as long as the drive doesn't move just using two screws will be fine.



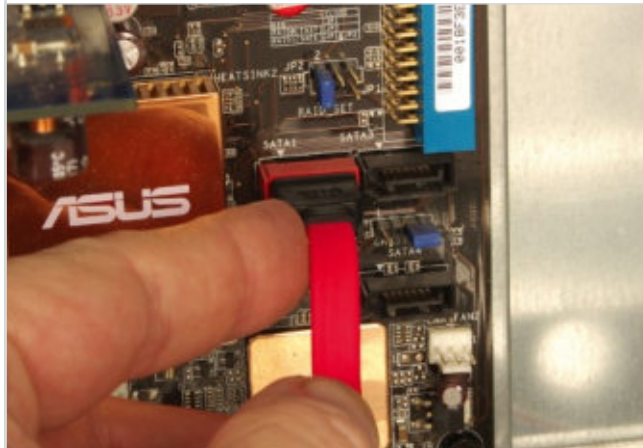
Step 8 Connect the SATA power connector from your PC's power supply to the power socket on your SSD. It can only connect in one way, so you can't get it the wrong way round.



Step 9 Locate a SATA data connector on your PC's motherboard. Easy to spot, they're shaped like the letter L. Most recent motherboards will probably have several SATA connectors.



Step 10 Plug one end of your SATA data cable into the socket on the motherboard. It should click into place. It can only go in one way and the two ends are identical, so you can't connect it the wrong way round.



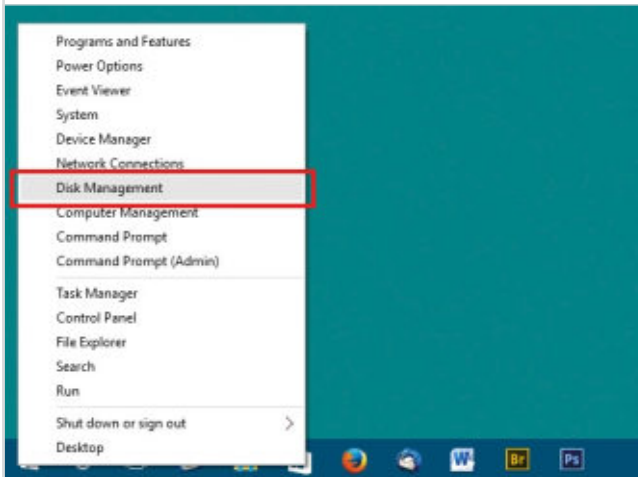
Step 11 Plug the other end of the SATA data cable into the socket on the SSD. Push it in all the way until it clicks. It can only go in one way, so you can't connect it the wrong way round. Push firmly but don't force it.



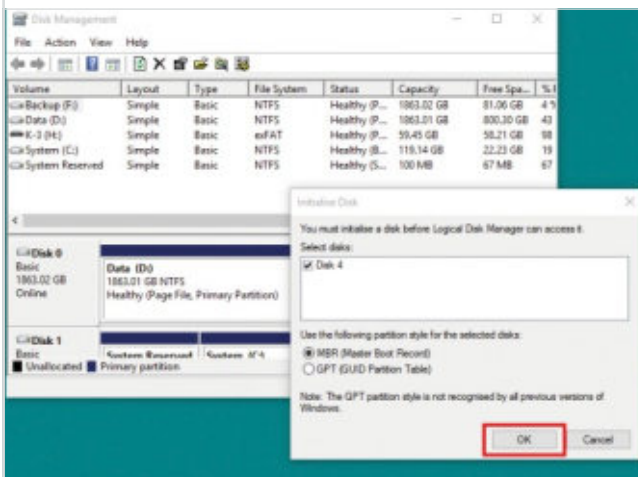
Step 12 Now you can close up the case, reconnect your mouse, keyboard, monitor and any other devices, plug the PC back in to the mains and switch it on.



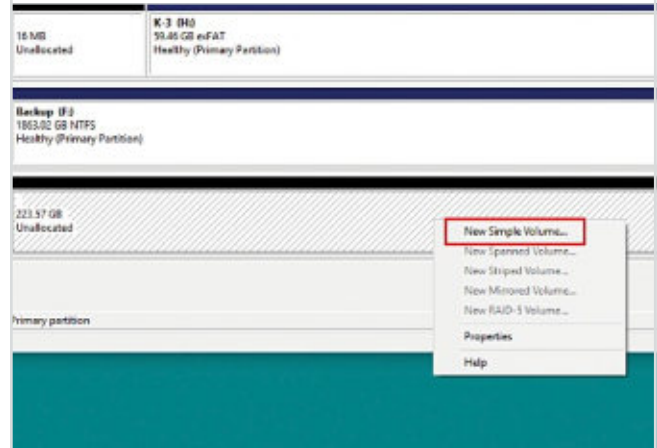
Step 13 Once Windows has launched you'll need to initialise your new drive before you can start using it. Right-click on the Start button and select Disk Management.



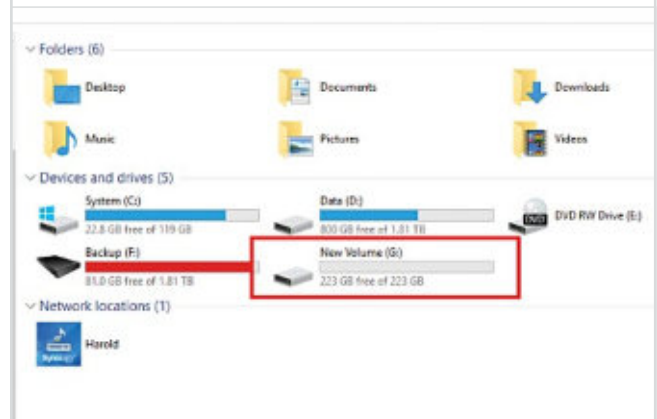
Step 14 In the Disk Management screen, you should see the new drive listed below your existing drives and described as "Unallocated", with the drive size shown in gigabytes.



Step 15 Right-click on the new drive and from the pop-up menu select New Simple Volume. This prepares the SSD to accept new data using the Windows NTFS file system. There's no need to format the drive first.



Step 16 Close the Disk Management window and open File Explorer. You should now see the new drive listed. If you previously had only one drive, labelled C, the new drive should be labelled D. You can now start using the drive to store data or install apps.



Note: If you want to migrate your Windows installation onto your new SSD or to replace the HD of a laptop with an SSD that's a little more complicated. To do this you will need to first learn how to create a drive image.

Overview of Redundant Arrays of Inexpensive Disks (RAID)

This article was previously published under Q100110

SUMMARY

This article explains the differences between redundant arrays of inexpensive disks (RAID) versions 0 through 5, and what Microsoft Server supports. This article also explains some of the advantages and disadvantages of the various RAID configurations.

MORE INFORMATION

Microsoft Windows NT Advanced Server supports only RAID 0, RAID 1, and RAID 5. Fault tolerance and disk array implementations the design described here, vary considerably among manufacturers.

SSD RAID ARRAYS

Since SSDs are currently generally of smaller capacity than HDDs, one solution to increase your storage capacity while still enjoying the speed and durability benefits of solid state technology is to use a RAID array. RAID stands for "redundant array of independent disks" (sometimes "inexpensive" disks), and is a way of making Windows tie several SSDs together and treat them as one single drive. This has many advantages; not least because the read and write times of a RAID array are frequently faster than for a single drive. Setting up a RAID array is not too difficult, and is something we will be covering in subsequent editions of this guide. For now, if you'd like to know more visit <https://support.microsoft.com/en-us/kb/100110>

Migrating Windows 10 to a New SSD

Moving your operating system onto a new Solid State Drive will let Windows and your installed apps launch much more quickly and will speed up your whole system. This process may sound like a daunting task but as long as you follow these simple steps, it should go smoothly.

Before you start please note that if you want to transfer your entire system to an SSD, including any stored data, you'll need an SSD at least as large as your existing hard disk drive. The best solution in most cases is to transfer just the C: partition containing your Windows installation and system files to the faster SSD and then carry on using your slower but larger capacity HDD as a D: drive to store your bulk data such as documents, photos and videos.

We'll create something called a "system image", which is a backup copy of your system that can be used to re-install on a

new drive; it's also a great way to keep a backup of your system, something that you really should do. In order to do this you'll need an external storage drive large enough to hold everything on your hard drive. You can buy high capacity external hard drives at any good computer store or online retailer. If your system supports USB 3.0 you should get a drive that supports it too, since it greatly speeds up the transfer process. An external drive like this should be on your shopping list anyway, since it's the best way to keep a backup of your important data.

Things you'll need:

- A newly installed SSD
- An external backup drive of sufficient size
- A recordable DVD
- A Windows 7/8 installation disc or system repair disc

DISCLAIMER

Opening up your PC and making alterations to its internal components carries the risk of damaging your PC, as well as the personal risk of injury or electrocution if you do not take the necessary precautions. You may also void the warranty on your equipment. If you are not completely confident that you can carry out this operation safely DO NOT ATTEMPT IT. You do so entirely at your own risk; Black Dog Media cannot accept any responsibility for any damage or injury to yourself or your property as a result of following this tutorial.

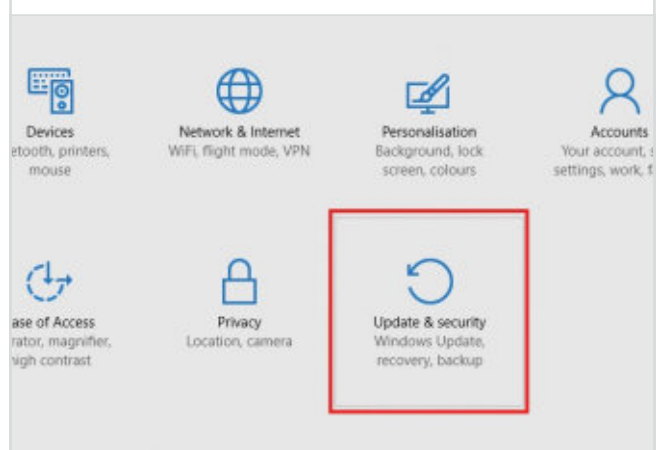
Transfer the OS

Here we will look at a method for transferring your Windows 10 installation onto this drive, without having to reinstall Windows from scratch, using the Windows 10 built-in backup system.

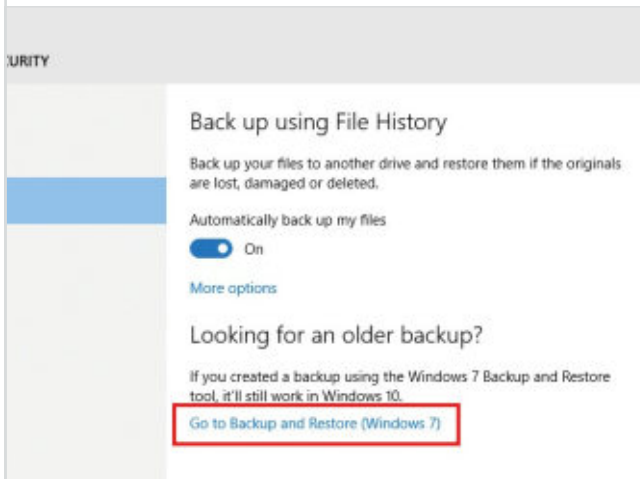
Step 1 Connect your external backup drive to a USB socket on your PC. The blue USB 3.0 sockets (if you have them) provide much faster data transfer and will speed up the process considerably.



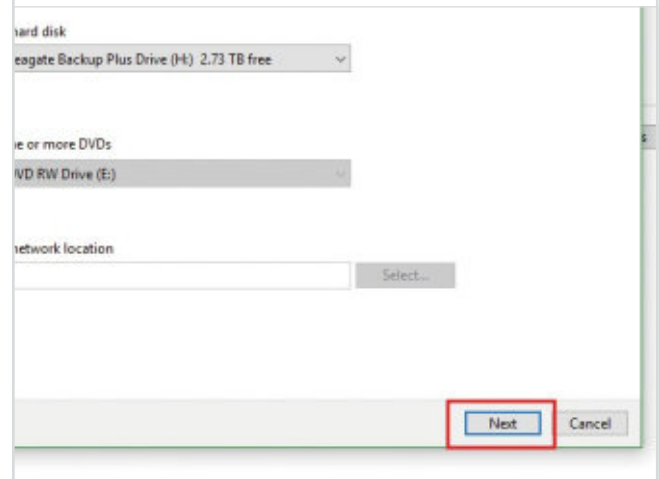
Step 2 Click on the Start button and then on Settings. On the Settings screen, click on Update & Security.



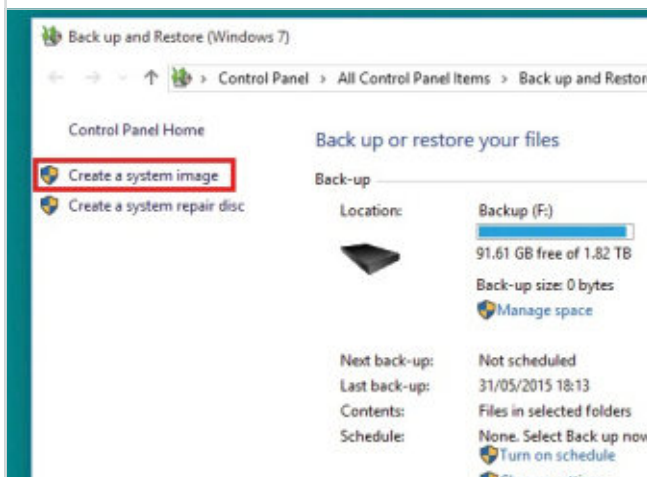
Step 3 In the index column on the left of the screen, click on Backup and then on that screen, click on the link and the bottom of the screen “Go to Backup and Restore (Windows 7)”.



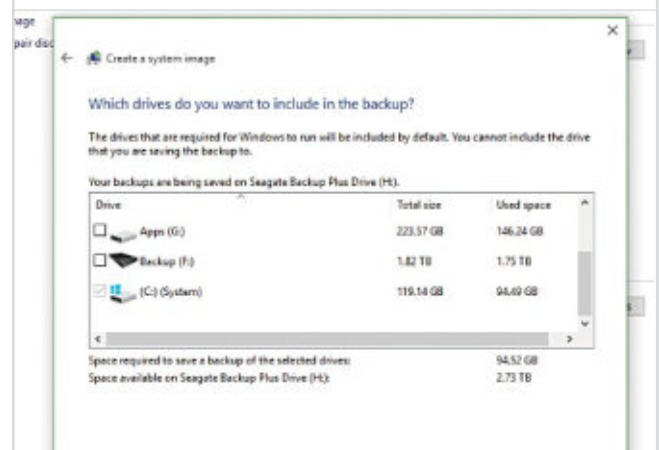
Step 6 Click on the button labelled “On a hard disk” and then click in the window to bring up the drop-down menu. Select the drive that you want to use from the list, then click Next.



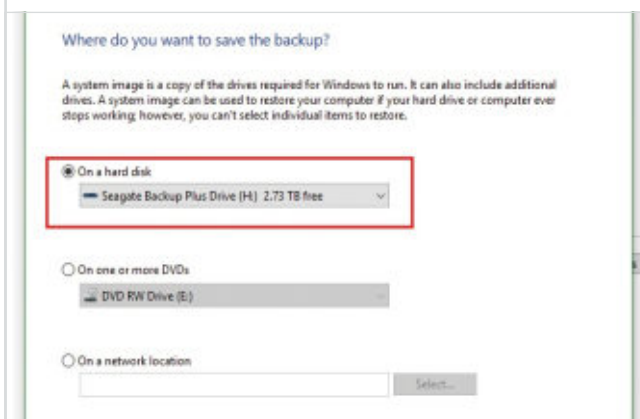
Step 4 If you’ve used Windows 7 before, the screen that appears should look very familiar. On the left of the screen you’ll see “Create a system image”; click on this link.



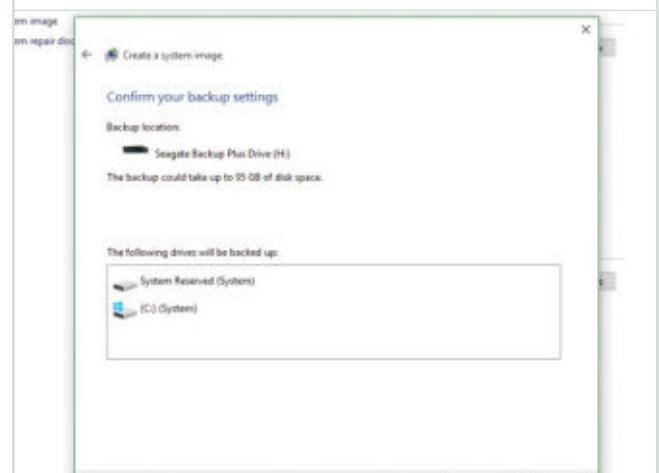
Step 7 On the next screen you can choose which drives you want to include in the image. If you have more than one, you’ll see that the system drive (C:) is pre-selected. To migrate your Windows installation this is all you need.



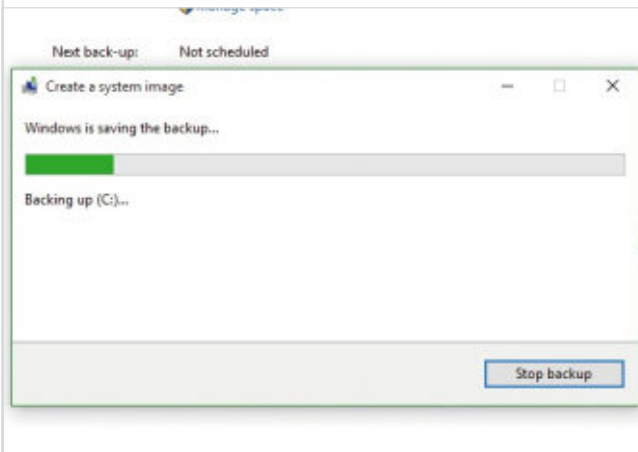
Step 5 The next screen presents you with several options about creating your system image backup. The DVD option is redundant, since it would take dozens of disks. If you have a large network drive available you could use that but we’ll use the external HDD.



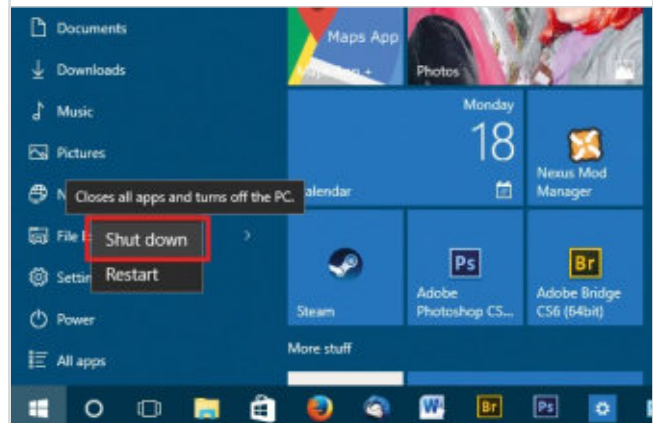
Step 8 Click Next and you’ll be taken to a final confirmation screen where your choices are listed. If you’re happy with the settings you’ve chosen, click Start backup.



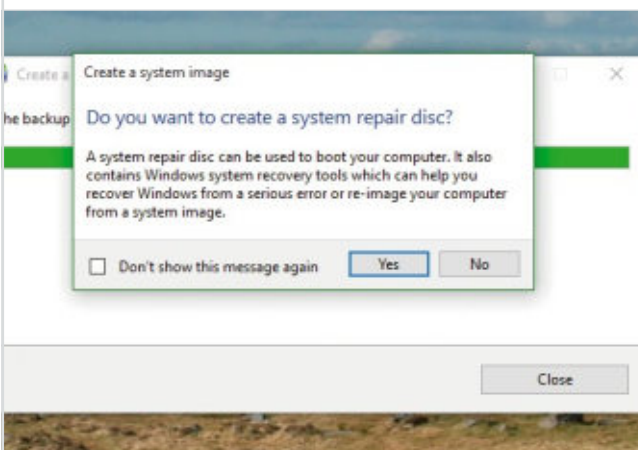
Step 9 Next you'll have to wait while the backup process proceeds, which will take anywhere from about 15 minutes to a couple of hours depending on the size of your installation and the speed of your backup drive.



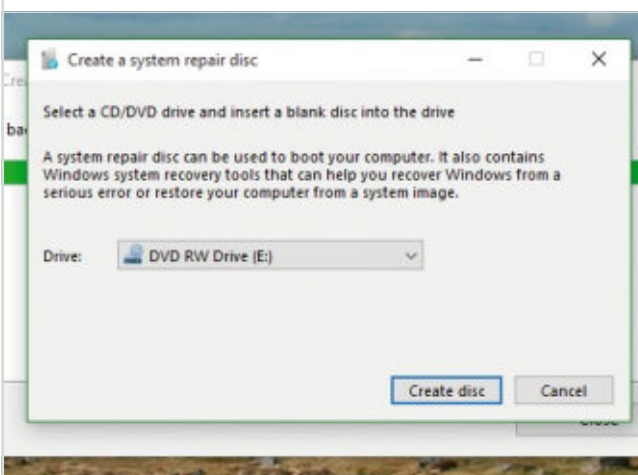
Step 12 Once the backup and disc recording is complete, switch off and disconnect your backup drive and then shut down your PC. Unplug it from the mains and disconnect all attached devices, such as the monitor, mouse, keyboard and printer.



Step 10 At the end of the backup process you'll be given the option to create a system repair disc. If your PC has a DVD-R drive, put a recordable DVD in and click "Create disc". The process will take a few minutes.



Step 11 Once the disc is complete, take it out and label it "Repair disc - Windows 10". Keep this disc handy because you're going to need it later.



Step 13 At this point, if you haven't already installed your new SSD, you should do so. Follow the process laid out in the preceding section of this book. While you've got the case open, disconnect, but don't remove, the old HDD that had your Windows system on it.



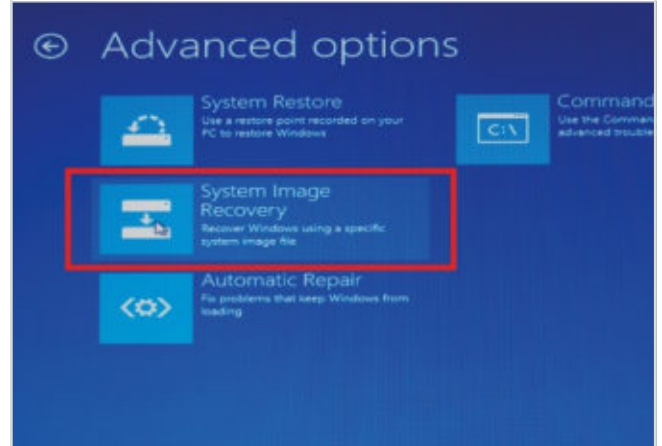
Step 14 If you've already installed your SSD, open up the PC case again and disconnect the old hard drive. If you don't plan on using the HDD again you can remove it. You'll need a small cross-head screwdriver to undo the screws holding the drive into the bay.



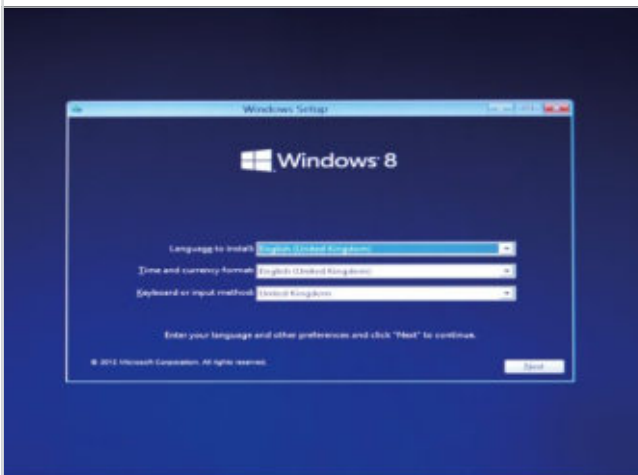
Step 15 Close up the case, reconnect your devices including the backup drive, plug the mains lead in and switch on the PC. It won't boot up, because the drive containing Windows is now disconnected.



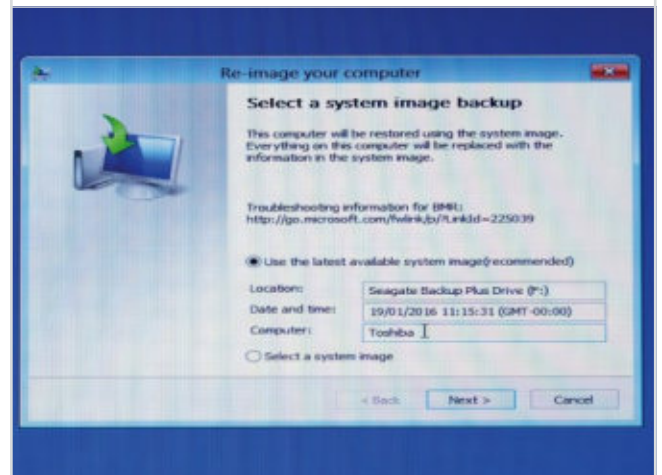
Step 18 On the next three screens, click on Troubleshoot, then Advanced Options, and then on System Image Recovery. This is where you can restore your Windows system from the disk image you recorded earlier.



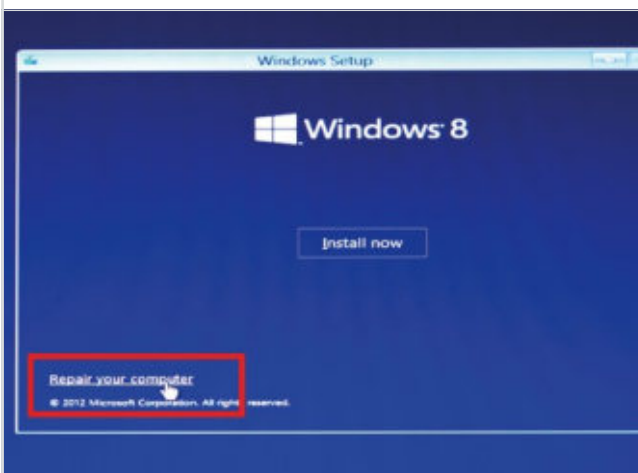
Step 16 Open the DVD drive and insert your old Windows 7/8 installation disc. Restart your PC and now it will boot up from the disc.



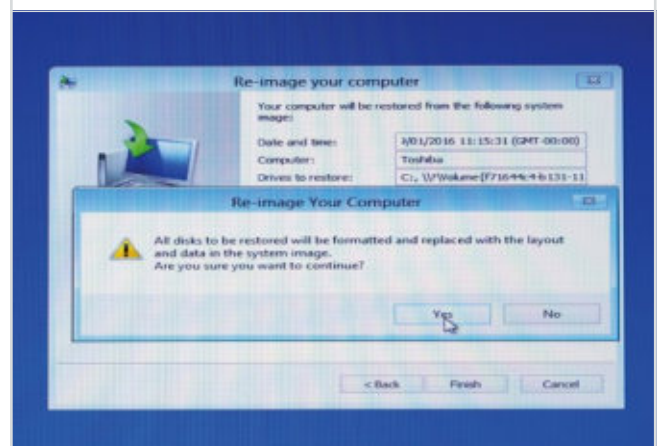
Step 19 Windows should automatically detect the system image on the connected backup drive. Check that the settings are correct and click Next.



Step 17 On the second screen of the Windows installation process, click on the "Repair your computer" link at the bottom of the screen.



Step 20 After a final confirmation that you want to proceed, Windows will set about restoring your system onto your new SSD. The process will take a while, but when it's done Windows should re-start normally.



Upgrade Your Graphics Card

Although they are often sold as a gamers best friend, your computer's graphics card isn't just used for making the latest games look pretty. Many everyday apps can make good use of the power of your GPU to boost their look and performance. Luckily, upgrading your GPU is quick and easy.

If you use your PC for gaming you'll no doubt already be aware that upgrading to a more powerful graphics card will make a big difference to how well your games run. However there are many other apps that can benefit from an upgraded graphics card. Video or image processing apps such as Adobe Photoshop or Premier can use your graphics processor unit (GPU) to speed up image processing and some apps that perform a lot of calculations can also use the GPU to boost their performance. If you're using some of the graphical bells and whistles that make Windows look nice an improved GPU may also speed up your desktop performance.

Fitting a new graphics card to a desktop PC is another fairly easy upgrade that can be performed without specialist knowledge or special tools. There is a huge range of cards available, ranging in price from around £25 (€33/\$36) for very basic models, to several hundred for the latest top end gaming cards. There are two major brands that dominate the market, Nvidia and AMD; both have advantages and disadvantages but are generally equal in terms of performance and value for money. If you want to upgrade, set yourself a realistic budget and buy the best card that you can afford. However if you're planning on playing the latest games you'll want to choose a high performance model. There are new ones launched regularly but at the time of writing the best options are either an Nvidia Geforce GTX 960/ 970/980 or an AMD Radeon 390/390X.



Note that it's usually impossible to upgrade the GPU in a laptop, since it's often an integrated component and cannot be removed. For those laptops that do have a separate graphics card, you'll usually have to buy a dedicated card from the manufacturer.

Before you buy a new card, make sure that your motherboard has the correct slots to accommodate it.

All modern graphics cards use the PCI Express (PCIe) slot and most recent motherboards will have at least one and frequently several of these; if in doubt check in the manual that came with your PC or on the manufacturer's website. You'll also need to check that the new card has connectors that are compatible with your monitor. Most modern monitors use a Digital Visual Interface (DVI) connector but older monitors many have a VGA connector, in which case you may need to buy an adapter. Also check that your PC's power supply has enough wattage to cope with the new card and that it has the right connectors available to plug into it. Generally anything over 450-500 watts should be fine, but some cards require particular power connections. If you have any doubts consult your local computer dealer, who will be happy to carry out the upgrade for you for a fee.

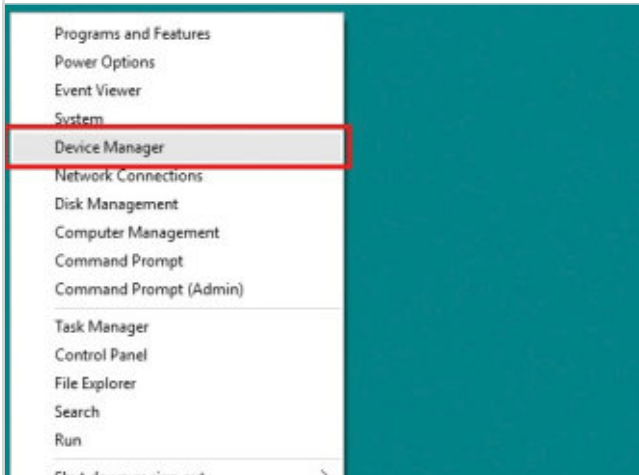
Things you'll need:

- The manual or specification sheet that came with your computer
- A small cross-head screwdriver
- Your new graphics card
- Power connectors for your new card
- The driver disk that came with the card, or an Internet connection to download drivers.

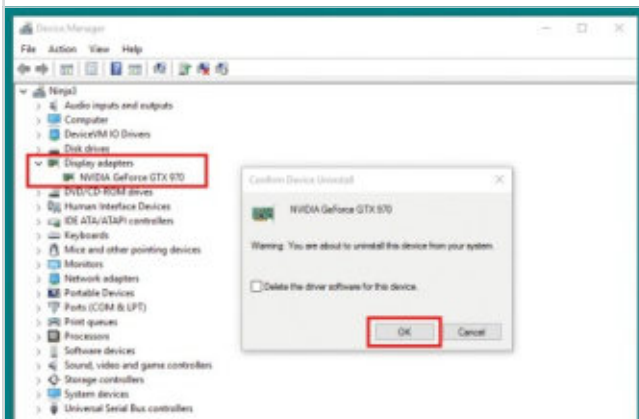
DISCLAIMER

Opening up your PC and making alterations to its internal components carries the risk of damaging your PC, as well as the personal risk of injury or electrocution if you do not take the necessary precautions. You may also void the warranty on your equipment. If you are not completely confident that you can carry out this operation safely DO NOT ATTEMPT IT. You do so entirely at your own risk; Black Dog Media cannot accept any responsibility for any damage or injury to yourself or your property as a result of following this tutorial.

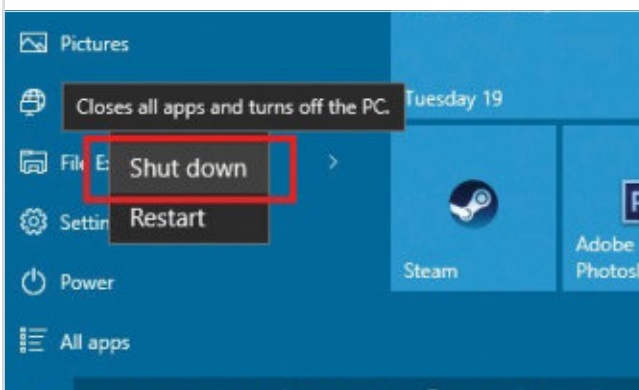
Step 1 Before you install a new graphics card, you need to uninstall your old one. Right-click on the Start button and select Device Manager from the pop-up menu.



Step 2 Click on the arrow next to Display Adapters, and right-click on the entry for your current graphics card. Select Uninstall, check the box to delete the driver software and click OK. Your display will change during the uninstallation; don't panic, this is normal.



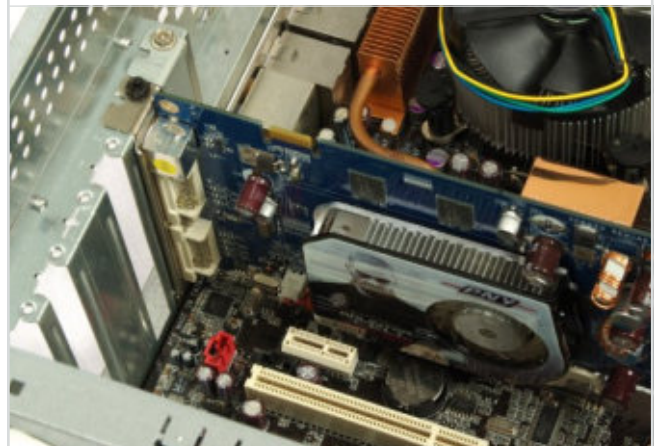
Step 3 Once the uninstallation process is complete, shut down your computer, unplug the mains lead, disconnect the mouse, keyboard, monitor and any other attached devices, then leave it for half an hour to ensure that residual voltage in any capacitors has dissipated and any hot components have cooled down.



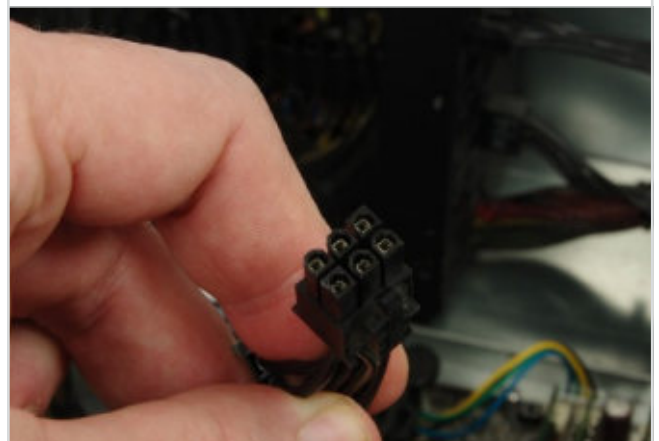
Step 4 Locate the graphics card. It will be fairly obvious as it sits in a slot on the motherboard and is attached to the back of the PC case, where it has monitor connection ports that are accessible from the rear of the case.



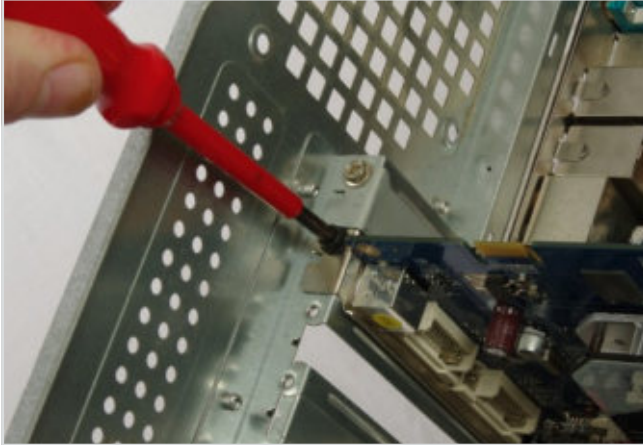
Step 5 Lay the computer on its side, and open the side of the case so that you can access the motherboard. You may need a small screwdriver to remove a few case screws, but many cases open without tools. Don't lose the screws!



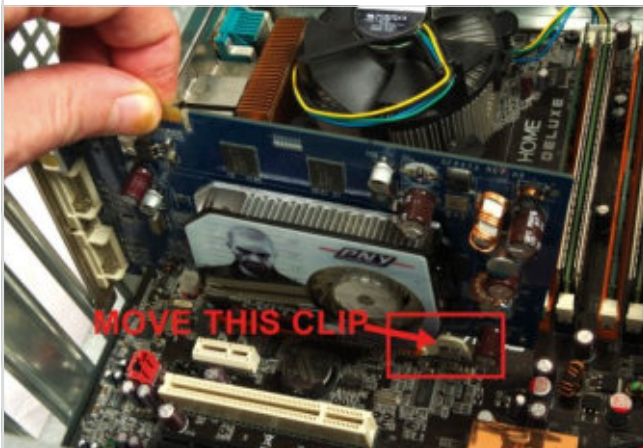
Step 6 Unplug the power connector(s) from the existing card. Note that there may be a catch that you have to release before the plug will come out. Don't force it or you may damage your motherboard.



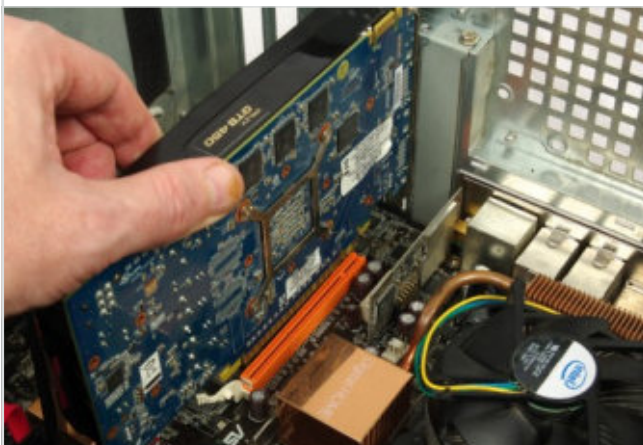
Step 7 Using a small crosshead screwdriver, remove the screw that holds the card on to the rear of the chassis, near to where it protrudes through the back of the case. On some cases there may be a clip instead of a screw. Don't lose the screw!



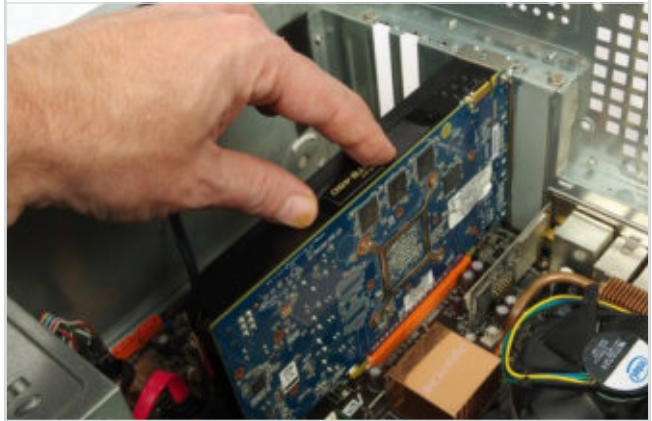
Step 8 Carefully ease the card out of the motherboard slot. Note that there may be a hard to spot plastic clip holding it in place. Release this clip if present but don't force the card or you may damage your motherboard.



Step 9 Take your new card, holding it so that you don't damage any of the components or touch the contacts tab and position it over the same PCIe slot from which you just removed your old card.



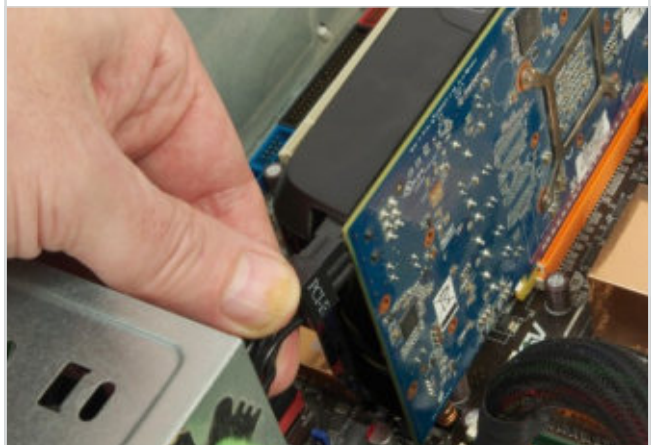
Step 10 Carefully push the card down into the slot. If it won't go all the way in, check for obstructions such as stray cables. Don't force it or you may damage both the card and your motherboard. You should hear the click of the retaining catch when it's all the way in.



Step 11 Refit the screw or clip that secures the card to the back of the PC case, where the monitor cable goes. This is important, since the monitor cable can be quite heavy and may get moved about if you move your PC or monitor.



Step 12 Connect the lead from your power supply to the power connector on the graphics card. Note that some cards require more than one power connection. The plugs are designed so that they can't be connected the wrong way round.



Step 13 Once everything is in place and connected, close up the PC case and reconnect the mouse, keyboard, monitor and any other attached devices. Turn the machine on and wait for Windows to launch.



Step 14 Windows will automatically detect your new graphics card and will use default drivers; to get the best performance you should install the latest dedicated drivers from the manufacturer. If your card came with a disc you should run it.



Step 15 If there was no driver disc supplied, or if your PC doesn't have a DVD drive, go to the card manufacturer's website and download the latest drivers. Nvidia's website should automatically detect which card you're using but if in doubt enter the details manually.



Step 16 Once the drivers are installed the upgrade process is complete. Windows should automatically set the optimum screen resolution for your monitor but it doesn't hurt to check the display settings.



USING TWO GRAPHICS CARDS TOGETHER

If you're planning on building the ultimate high performance gaming PC you'll naturally want the most powerful graphics processing available, and for that you need to run two, or even more graphics cards together. Most high end graphics cards from the main manufacturers have special connectors that allow two or more cards to be bridged together to share the load of running the latest games, so if you can afford it and you want the best possible performance it's definitely the way to go. Both Nvidia and AMD have their own proprietary systems for this; Nvidia's is called SLI, while AMD has Crossfire. They work in essentially the same way; mount two high end graphics cards in adjacent PCIE slots and then attach a small jumper cable to the sockets on the cards. The supplied drivers will recognise the dual installation and set them up accordingly. Of course you'll need a motherboard that has multiple PCIE slots as well as a power supply with the wattage to cope with running two powerful cards at the same time.



78



Set Up Python in Windows 10

If you want to take your computer science knowledge further, Python is a good start.

Run Ubuntu on a Windows 10 PC

Learn how to easily run a completely different OS on top of Windows 10.



90

118

Windows 10 Touchpad Gestures

If you are using a laptop, these touchpad gestures can make Windows 10 much easier.



Windows 10 Advanced User Guides

Master all of the main elements of Windows 10, including the taskbar, Action Centre, Registry and Cortana. Learn how to speed up everything you do with gestures and hotkeys or simply learn more about hidden features like GodMode. This section will guide you through making Windows 10 behave exactly how you want it to.

Contents

78	Using Python in Windows 10	106	Set Search to Use Local Search Only
80	Getting to Know Python	108	Make Cortana Use Firefox and Google
82	Choose and Install a Text Editor	110	Set Up Cortana Voice Search
84	Hello, World: Commands and Sequences	112	Disable the Cortana Assistant
86	Python Bugs and Debugging	114	Managing Your Notifications
88	Learning If and Else in Python	116	Set Up the Quick Actions Panel
90	Run Ubuntu on a Windows 10 PC	118	Touchpad Gestures and Hotkeys
92	Enable Bash in Windows 10	120	Windows 10 Hotkeys
94	Add a Shutdown Timer to the Desktop	122	Enable the GodMode Folder
96	Windows 10 Registry Tweaks	124	Put a Desktop Link on the Taskbar
98	Installing WordPress on Windows 10	125	Put a Web Search Bar on the Taskbar
102	Essential Cortana Commands List	126	Pin Settings to the Start Menu
104	Setting Cortana Reminders	128	Mastering Microsoft Edge
		132	Advanced Options in Microsoft Edge

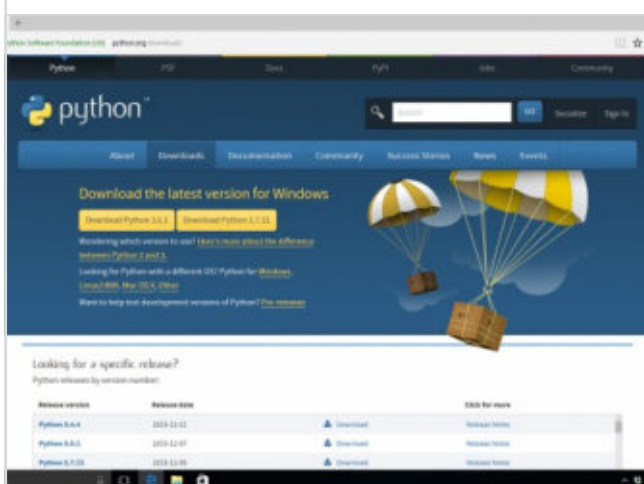
Using Python in Windows 10

If you want to start learning more about coding, Python is just about the best place to start. Setting up Python is a pretty straightforward process if you are running a Windows 10 system. It may not be the OS of choice for seasoned Python developers but Windows is a safe system to work in.

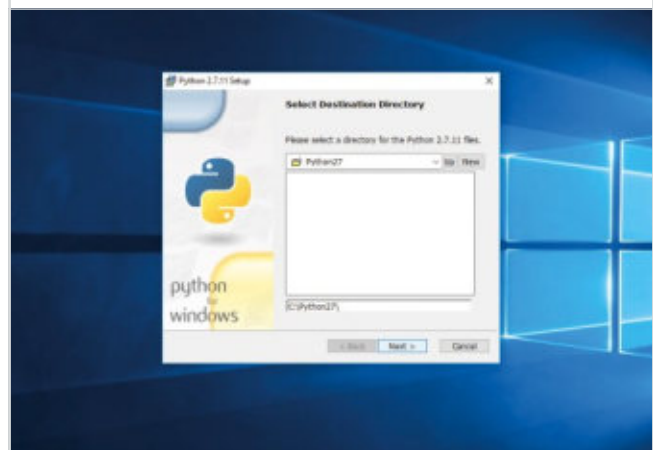
Installing Python

Microsoft Windows 10 doesn't generally come with Python installed, so you'll normally need to install it separately, although you may find it preinstalled on some devices.

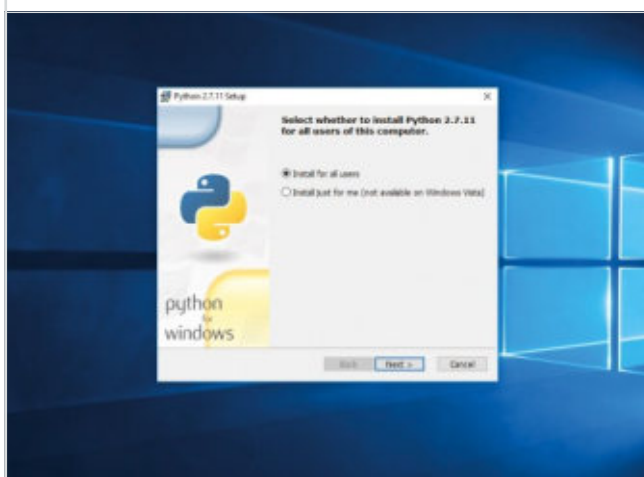
- Step 1** Open your web browser in Windows and enter python.org/downloads into the URL field. Now click Download Python 2.7.12. Don't select Download Python 3.5.2 because the older version is better for learning and training.



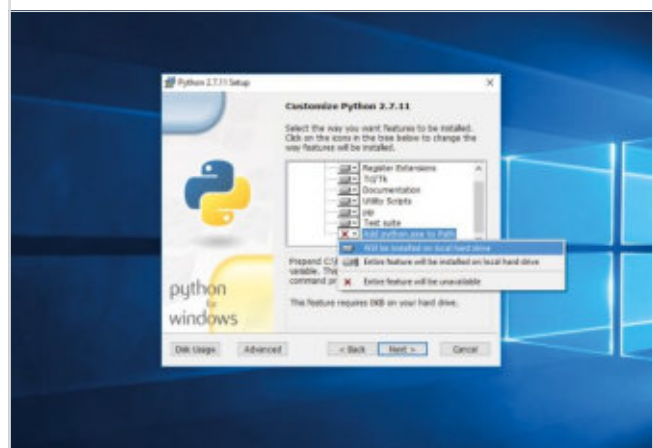
- Step 3** The default install location is C:\Python27\ and you are strongly advised not to change it. It is possible to install multiple versions of Python on one machine, in different folders and we'll be referencing this folder version later. So don't change it. Click Next.



- Step 2** Open File Explorer and double-click Downloads. You will see the Python 2.7.12 file. The Python 2.7.12 Set Up window appears. Choose 'Install for all users' and click Next. The Select Destination Directory window is now displayed.



- Step 4** Scroll down the Customise Python 2.7.12 options to find the Add Python.exe to path options (with a red 'X' next to it). Click on the 'X' and choose 'Will be installed on local hard drive' from the drop-down menu; this enables you to run Python in Powershell using the command "python." Click Next.



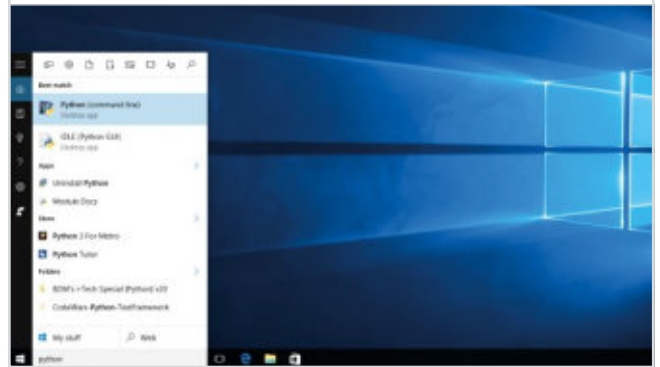
Step 5

The Python 2.7.12 script will install all the required components. Click Yes in the User Account Control window to enable it to do its thing. At one point a black terminal window will appear. This will quickly install Pip, a package manager for Python. Click Finish to exit the installer.



Step 6

You now have Python installed on your computer, along with an app called IDLE (Integrated Development Environment). Click on Search in Windows and enter "python" and you'll see two options, Python (Command Line) and IDLE (Python GUI). You can also run Python from the PowerShell.

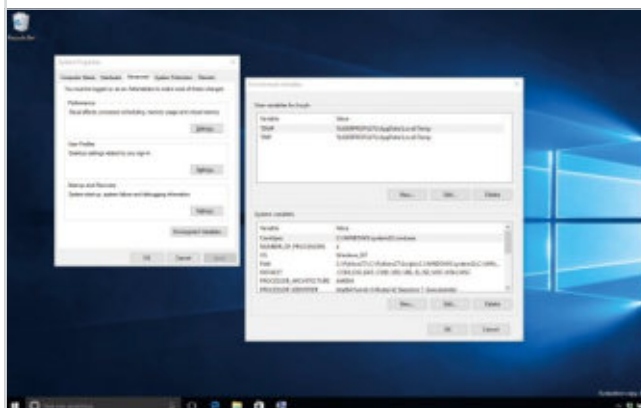


Setting the PATH

It's possible to install different versions of Python, so you need to add it to the PATH environment manually. This enables you to have control over which version runs Python programs.

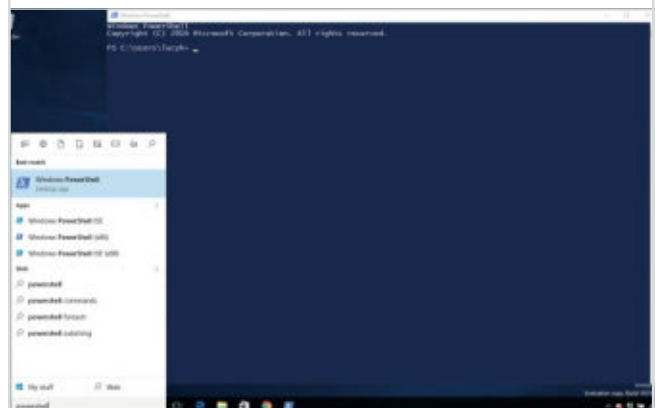
Step 1

Click on Search and enter 'environment'. Choose 'Edit The System Environment Variables' not 'Edit Environment Variables for your Account'. The System Properties window appears, click 'Environment Variables'.



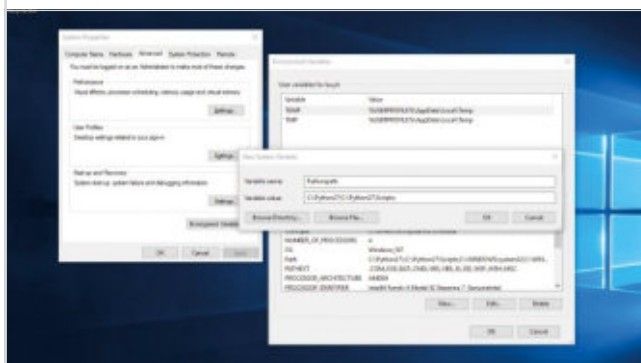
Step 3

Click on Search or Cortana and enter powershell and click on Windows PowerShell. For reference we're using Windows PowerShell and not Command Prompt throughout this book.



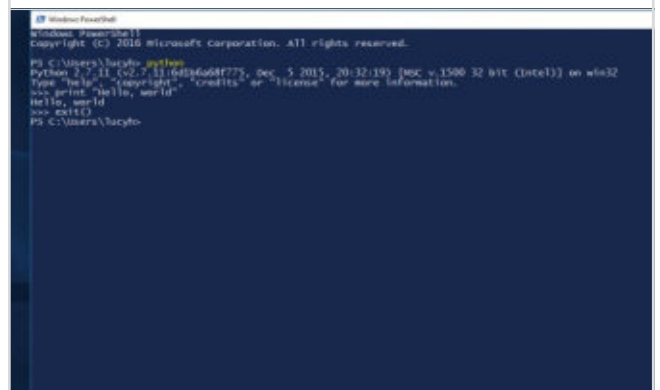
Step 2

Now click New. Enter "Pythonpath" in the Variable field and "C:\Python27;C:\Python27\Scripts;" in the Variable value field. Click OK and OK in the other two windows to close them. You are now ready to start using Python on your Windows computer.



Step 4

Open Enter python and press return. You will see the Python prompt ">>>". If you get an error message, restart your Windows computer and check the PATH settings. Enter exit() to return to PowerShell.



Getting to Know Python

Python is the greatest computer programming language ever created. It enables you to fully harness the power of a computer, in a language that's clean and easy to understand. The first step of any new Python coder should be to better understand the language and how it compares to others.

What is Programming?

It helps to understand, in a more general sense, exactly what a programming language is before you begin to learn more about coding with Python. A good foundation of knowledge makes later learning easier.

Step 1

A programming language is a list of instructions that a computer follows. These instructions can be as simple as displaying your name or playing a music file, or as complex as building a whole virtual world. Python is a programming language conceived in the late 1980s by Guido van Rossum at Centrum Wiskunde & Informatica (CWI) in the Netherlands as a successor to the ABC language.



Step 3

Just like a recipe, a program consists of instructions that you follow in order. A program that describes a cake might run like this:

```
bowl = []
flour = 100
butter = 50
milk = 100
bowl.append([flour,butter,milk])
cake.cook(bowl)
```

```
cake.py - C:\Users\jough\Desktop\1_Actions\cake.py (2.7.11)
File Edit Format Run Options Window Help

class Cake(object):
    def __init__(self):
        self.ingredients = []
    def cook(self, ingredients):
        print "Baking cake ..."

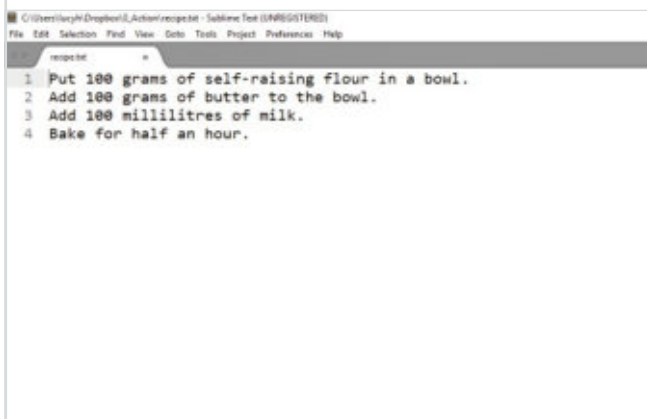
cake = Cake()

bowl = []
flour = 100
butter = 50
milk = 100
bowl.append([flour,butter,milk])

cake.cook(bowl)
```

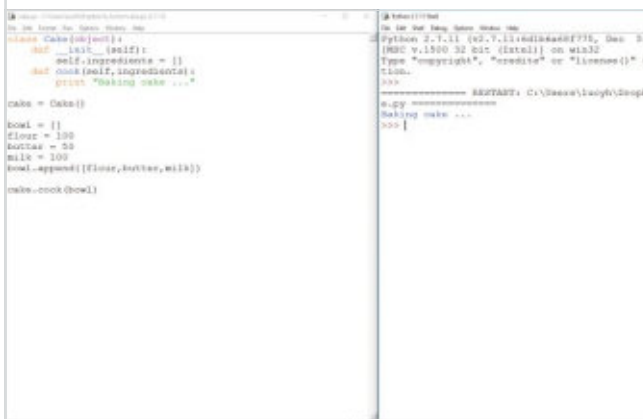
Step 2

Programs are like recipes for computers. A recipe to bake a cake could go like this:
Put 100 grams of self-raising flour in a bowl.
Add 100 grams of butter to the bowl.
Add 100 millilitres of milk.
Bake for half an hour.



Step 4

You might not understand some of the Python commands, like `bowl.append` and `cake.cook(bowl)`. The first is a list, the second an object; we'll look at both in this book. The main thing to know is that it's easy to read commands in Python. Once you learn what the commands do, it's easy to figure out how a program works.



Step 5 Computer languages that are easy to read are known as “high-level”. This is because they fly high above the hardware (also referred to as “the metal”). Languages that “fly close to the metal,” like Assembly, are known as “low-level”. Low-level languages commands read a bit like this: `msg db ,0xa len equ $ - msg.`



Step 6 Python lets you access all the power of a computer in a language that humans can understand. Behind all this is an ethos called “The Zen of Python.” This is a collection of 20 software principles that influences the design of the language. Principles include “Beautiful is better than ugly” and “Simple is better than complex.” Type import this into Python and it will display all the principles.

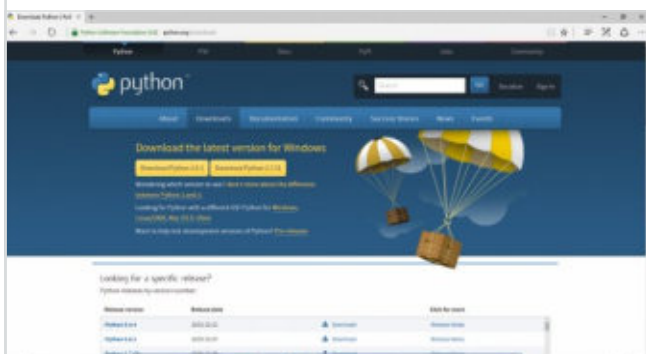
```
Python 2.7.11 Shell, IPython Shell, Shell, Shell
Python 2.7.11 (IPython Shell) [IPython 2.7.0] Shell, IPython Shell, Shell, Shell
File "C:\Python27\Python.exe" line 1: SyntaxError: invalid syntax
>>> import sys
The Zen of Python, by Tim Peters

Beautiful is better than ugly.
Explicit is better than implicit.
Simple is better than complex.
Complex is better than complicated.
Flat is better than nested.
Sparse is better than dense.
Readability counts.
Special cases aren't special enough to break the rules.
Although practicality beats purity.
Errors should never pass silently.
Unless explicitly silenced.
In the face of ambiguity, refuse the temptation to guess.
There should be one -- and preferably only one -- obvious way to do it.
Although that way may not be obvious at first unless you're Dutch.
Now is better than never.
Although never is often better than "right now".
If the implementation is hard to explain, it's a bad idea.
If the implementation is easy to explain, it may be a good idea.
Namespaces are one honking great idea -- let's do more of those!
>>>
```

Python 2 vs Python 3

Complicating matters slightly is the presence of two main versions of the Python language: Python 2 and Python 3. If you are completely new to Python, it is probably a good idea to start with Python 3.

Step 1 When you head to the Python.org download page you'll be confronted by two options: currently Python 2.7.12 and Python 3.5.2. Why on earth does Python offer an older version and which one should you use? Basically, download the Python 2.7.12 and ignore the newer edition for now, but be aware that a more modern edition exists.



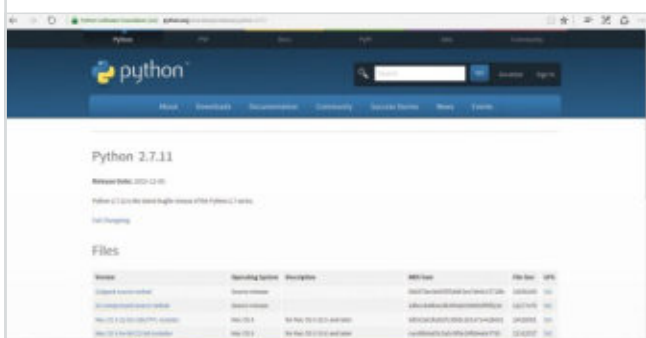
Step 3 You can usually tell the difference between the two languages by looking at a print statement:

```
print "Hello, world" # Python 2.x
print ( "Hello, world" ) # Python 3.x
```

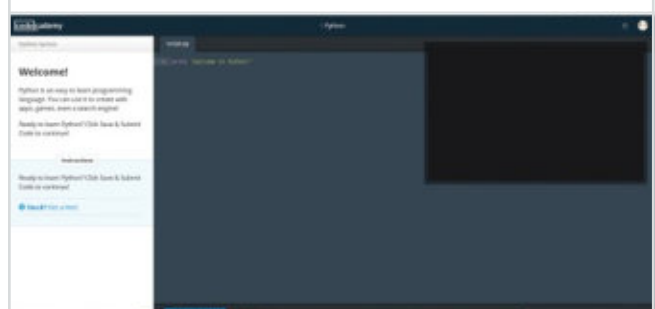
There are lots of other differences too. The official stance, found at python.org/moin/Python2orPython3 is that you should learn Python 3 first.



Step 2 Python 2 was released way back on 16 October 2000, while Python 3 was released in 2008. Most people would opt for the newer version instinctively but the older version of Python is around for a reason. There are a lot of differences between Python 2 and Python 3 and you can't run Python 2 programs in Python 3 without making a lot of changes.



Step 4 However, almost every course for beginners uses Python 2.7. Popular sites like Codecademy and Lynda.com all use Python 2.7. Even advanced courses offered by universities like MIT use Python 2.7. On top of that almost all the help on sites like StackExchange is for Python 2 coders. This makes starting with Python 3 much more difficult. So we are going to teach you Python 2.7.



Choose and Install a Text Editor

You'll need a good text editor to create your Python programs and a regular word processor won't make the grade. In this tutorial we'll show you how to install and set up our favourite text editor, Sublime Text.

Why Sublime?

Sublime is a personal favourite of your humble writer and one of the most respected text editing documents around. It also works across Windows, Apple and Linux platforms, so you can use it across all of your computers. It's also fast and nice to look at.

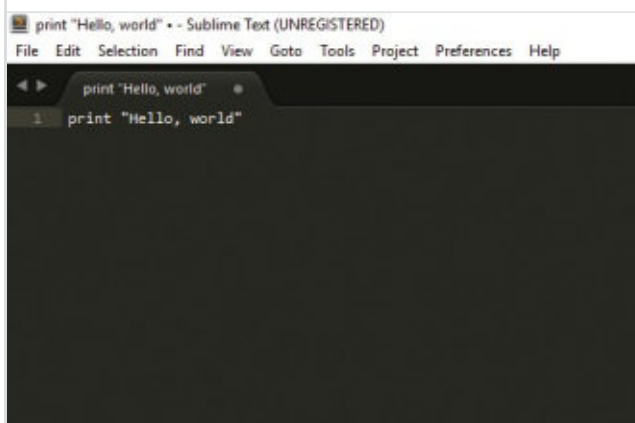
Step 1

Open your web browser and navigate to sublimetext.com. Click Download and select OS X, Windows or Ubuntu 64 Bit (Ubuntu 32 Bit if you're running a 32-bit system; you can check in System Settings > Details). The installation file will be saved to your Downloads folder.



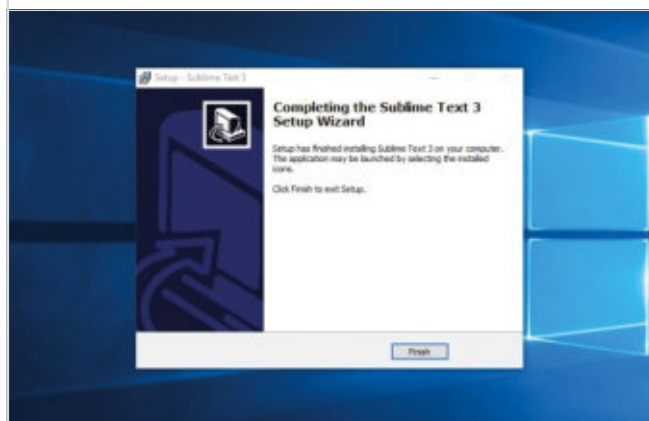
Step 3

Open the Sublime Text app. It will launch with a dark screen and a black document. Enter the words `print "Hello, world"`. Notice that it's in plain white text on a black background. There's nothing wrong with this but you're going to change the colour scheme so that it's easier to read the text in the magazine.



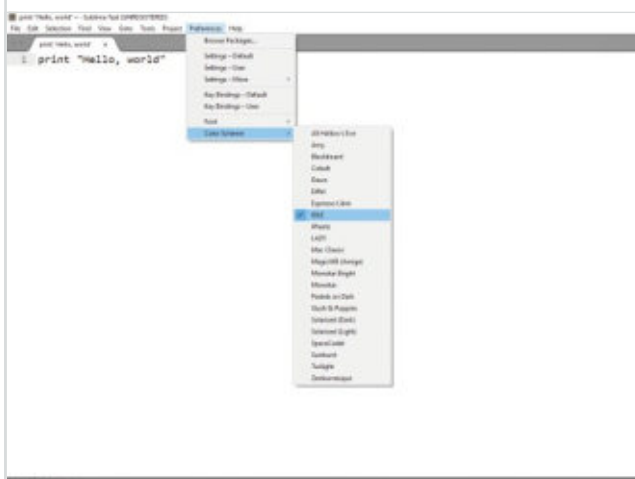
Step 2

Open the Downloads folder and double-click the Sublime Text Build Setup file. Click Yes in Window's User Account Control window and follow the Sublime Text 3 Setup Wizard. If you're on a Mac, click the Sublime.dmg file and drag the application to the Applications folder. In Linux, double-click the deb file and click Install in Ubuntu Software.



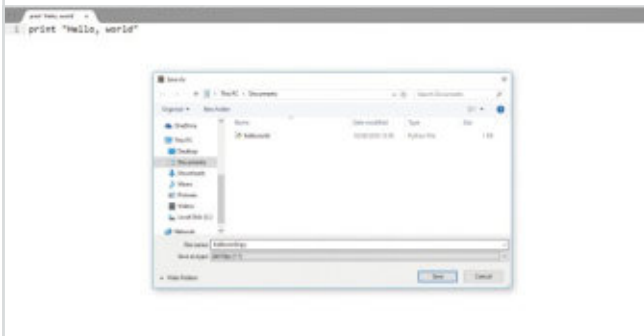
Step 4

Choose Preferences > Colour Scheme > IDLE. This changes the colour of the screen to white and the text to plain black. You're also going to use Preferences > Font > Larger (Control +=) to make the text larger.



Step 5

Before you save the file, take a look in the bottom-right of the Sublime interface. You will see the words “Plain Text.” When you save the file this will change to Python and the colour of the text will change. Choose File > Save As and save the file as “helloworld.py”. The “py” extension tells Sublime that you’re working with Python code.

**Step 6**

The colour of the text will now have changed with print in orange and “Hello, world” in green. The text colour takes place automatically and indicates different type of code; you never change the colour manually. Notice that the description in the bottom right has changed from Plain Text to Python. Click this and you will see other languages available.



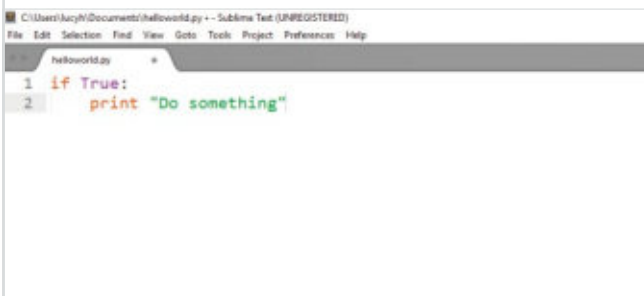
Tabs vs Spaces

You’re about to get into one of the most long-standing programming heated debates, tabs or spaces? Don’t worry, we’ll help you out.

Step 1

Delete the text in your Sublime Text document and write a single line that says if True. Don’t worry about what this means, you’re just going to use the next line to indicate something. Now press the Return key and press the Space bar four times and enter `print “Do something”`. It should look like this:

```
if True:
    print “Do something”
```

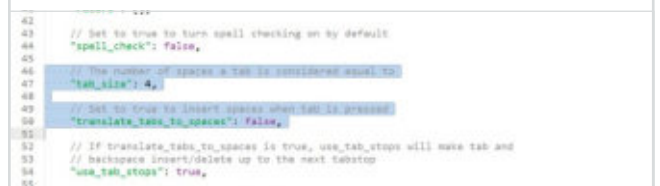
**Step 3**

We really don’t want you to use tabs. So we’re going to adjust the preferences in Sublime Text to change tabs to four spaces automatically. Choose Preferences > Settings - Default. Scroll down to find this text:

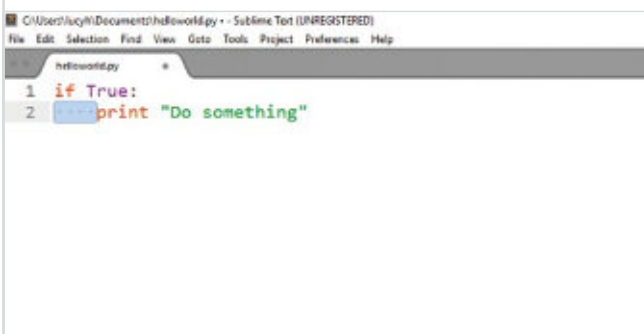
```
// The number of spaces a tab is considered equal to
“tab_size”: 4,
```

```
// Set to true to insert spaces when tab is pressed
“translate_tabs_to_spaces”: false,
```

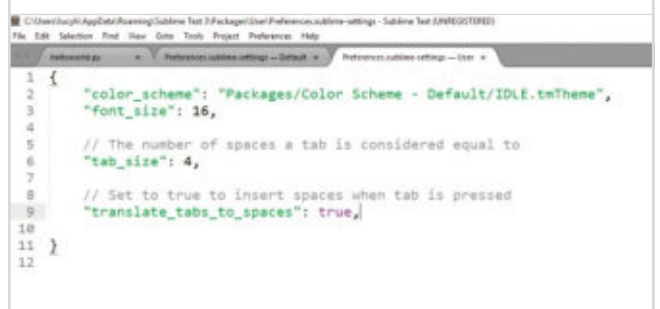
Highlight it and choose Edit > Copy (Control-C).

**Step 2**

That second line is called an “indentation”. Don’t worry about what the code means for now. You just need to know that you can indent code by pressing four spaces or pressing the Tab key a single time; you must never mix and match though. Highlight the gap and you’ll see four grey dots, to indicate spaces. If you see a solid dash you have a tab.

**Step 4**

Now choose Preferences > Settings - User. Place the cursor after the “16” at the end of the line with “font size” 16. Insert a comma (’,’) and press return twice. Now choose Edit > Paste and Indent. The pasted text should line up with the text in the document (as shown in the image). Finally change “false” to “true”. Choose File > Save. Now when you press Tab, you’ll actually insert four spaces. You’re ready to code.



Hello, World: Commands and Sequences

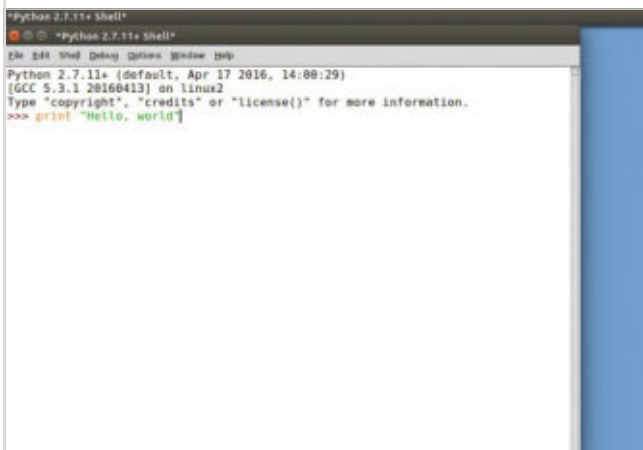
We're ready to start programming in Python. Get ready to start learning what commands and sequences are, the bedrock of computer programming. In this tutorial we'll enter our first commands and explain what the anatomy of a computer program looks like.

Hello, World

You'll see the phrase "Hello, world" a lot when starting out as a programmer. It's a computer tradition, which we're going to honour, where the first command you issue in any new programming language is to print the words "Hello, world" on the screen.

Step 1

Open IDLE on your computer. It will open displaying an empty Shell with three chevrons: "`>>>`". This is known as the "Primary Prompt" and is where you enter Python commands. Commands is a line of text that tells a computer to do something. Enter the following command: `print "Hello, world"`



```
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:08:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>> print "Hello, world"
```

Step 3

The command `print "Hello, world"` is pretty easy to understand, even if you know nothing about programming but let's stop and look a bit closer. It's actually two things: the word "print" and the words "Hello, world" inside quotation marks. The word print is officially known as a "Statement". Statements are simple commands that tell Python to do something.

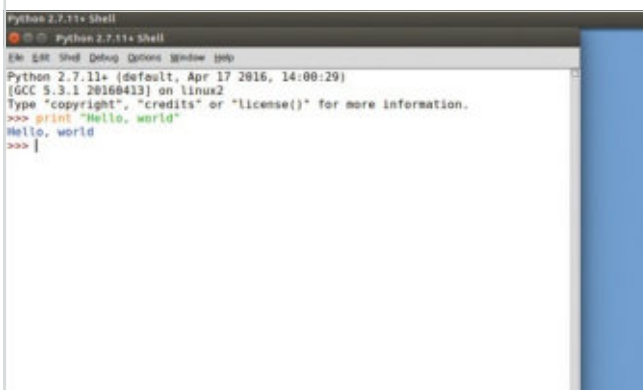
Statement



`print "Hello, world"`

Step 2

Now press Return. As soon as you press Return the command is inputted into the Python interpreter and the words "Hello, world" come right back at you in blue on the line beneath. This is known as "Input" and "Output". Entering commands directly into the Shell, like this, is known as "Interactive Mode". In Interactive Mode you see the output as soon as you input each command.



```
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:08:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>> print "Hello, world"
Hello, world
>>> |
```

Step 4

The "Hello, world" bit in `print "Hello, world"` is known as an "argument". The statement is the same but the argument can change. You can enter `print "Welcome to Python"` or `print "We are the knights that say Ni"`. The argument can change but the statement remains the same.

Argument



`print "Hello, world"`

Step 5

As well as statements there are other commands known as “functions”. A function is similar to a statement but is immediately followed by two brackets “()” and the argument goes inside the brackets. There are lots of functions in Python and each does something different. Let’s find out how many letters are in “Hello, world”: `len(“Hello, world”)`

```
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:00:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>> print "Hello, world"
Hello, world
>>> len("Hello, world")
12
```

Step 6

The function returns 12 on the line below. Count the letters and this may confuse you, as there are seemingly 11. The extra letter is the space between the “,” and “w”. Here’s an important lesson. Computers are extremely literal and while you skip over blanks, they do not. Everything has a purpose.

```
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:00:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>> print "Hello, world"
Hello, world
>>> len("Hello, world")
12
>>> |
```

Sequences

Few programs are as simple as our print and len commands. These are just a single line but most programs are a sequence of commands; one taking place directly after another. This sequence is what you commonly call a “program.” In IDLE these are created in Editor mode.

Step 1

Let’s create a simple program. It’s going to ask a person for their name and then say “hello” to them, instead of the world, and then let them know how many letters are in their name. In IDLE choose File > New File to create a blank text document for our program. Close the Shell so you can focus on the program.

```
hello.py - /home/lucy/hello.py (2.7.11+)
name = raw_input("Please enter your name: ")
print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."
```

Step 3

We’re now going to write our first program. Do not worry too much about understanding the commands here. You’ll learn as you go. You do need to type out everything exactly as you see it here though, including all spaces brackets and using double quote marks (“”):

```
name = raw_input("Please enter your name: ")
print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."
```

Step 2

You must save your program before you can run it. Choose File > Save As and enter the name “hello_name.py.” It is important to end the filename in “.py” so your computer knows this is a Python program. It’s also a good idea to use “_” for spaces and stick to lowercase letters but we’ll cover filenames later. Click Save.

```
hello_world.py - /home/lucy/hello_world.py (2.7.11+)
name = raw_input("Please enter your name: ")
print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."
```

Step 4

It’s time to run your program. Choose Run > Run Module or press F5 on your keyboard. If you’re using an Apple keyboard press Fn + F5. The program says, “Please enter your name”. Enter your name and press return. It then says, “hello” to you and tells you how many letters are in your name. Notice the sequence. Our program has three lines and does three things, one after another.

```
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:00:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>>
Please enter your name: Crake
Hello Crake
Your name is 5 letters long.
>>> |
```

Python Bugs and Debugging

Computers are literal things and they need you to be very precise. All too often you'll have errors in your program. These are known as "bugs" and getting rid of errors is known as "debugging". This is an essential skill for any programmer or coder, so learning how to do it now will pay dividends.

Bugs are Normal

Before we dive into proper programming, we need to talk about bugs and accuracy. Here's the thing to remember, it is normal to have bugs. Just because your code doesn't work first time or even the first few times, that doesn't mean you're a bad coder.

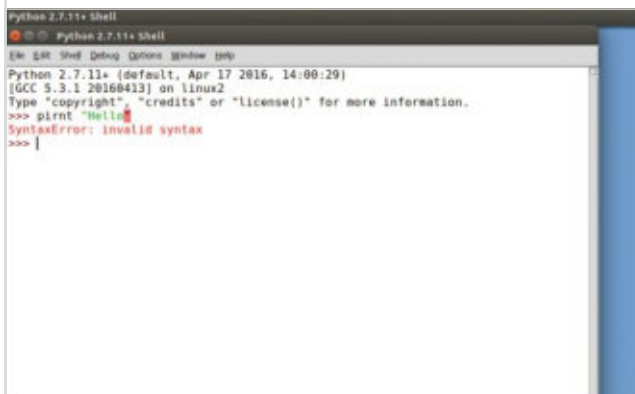
Step 1

Programs are written in the language we call "code". There are lots of different languages and Python is easier than most but like all code it has to be right to work. Unfortunately people aren't as perfect as computers and everybody makes mistakes. These mistakes are called "bugs".



Step 3

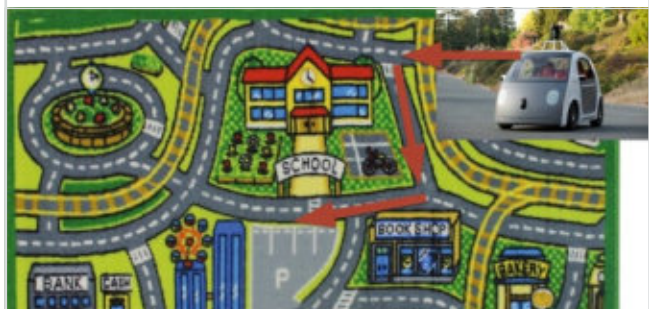
The first type of error you'll make, and the one you'll make most at first, is called a "syntax error." This is where you've typed something wrong. In our car program, you might write **dirve(forward)** instead of drive. You can try this out in the Shell. Enter **print "hello"** and it'll return "SyntaxError: invalid syntax" in bright red text. Whenever you see the words "Syntax Error" that's your cue to check carefully for typing errors.



Step 2

When you make a mistake, your program may not work or may seem to work but be doing the wrong thing. Imagine you were creating a program that drove a Google car around a map to a school. Say this is how the program works:

```
drive(forward)
turn(left)
drive(forward)
turn(right)
drive(forward)
```



Step 4

The second type of error is more fiddly. It's known as a "semantic error" or a "logic error". This is code that the computer understands just fine but it doesn't do whatever you wanted it to do. Say you wanted to drive the Google car to school but wrote these instructions:

```
drive(forward)
turn(right)
drive(forward)
```

The program runs just fine but the car drives off the map and disappears. In this case you need to stop and think about what you're trying to do and why the code isn't doing it.



Step 5

As you will learn to code from this book it's important to do things the right way. Be sure to type out all the code, including any comments, exactly as you see it. If you're reading this on a digital version of the book, do not copy and paste the code. You won't learn anything and you might introduce errors. Type it by hand.

```
*hello.py - /home/jucy/hello.py (2.7.11+)*
#Enter code exactly as you see it (including comments like this one)
#Never copy and paste code. Enter it in manually and try to understand it!

name = raw_input("Please enter your name: ")

print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."
```

Step 6

Type slowly. Programming isn't like other forms of writing; you can and should take your time. Be sure to try and understand each line as you go. When you get to the end of the program read it line-by-line backwards, from the last line to the first, before running it.

```
*hello.py - /home/jucy/hello.py (2.7.11+)*
name = raw_input("Please enter your name: ")
print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."

#When you get to the end of typing your code
#Read it backwards, one line at a time
#To catch any errors!
```

Debugging

Getting rid of errors in your code is known as “debugging” them. It's pretty common and most programmers say: “you don't write programs; you get rid of all the bugs”.

Step 1

Spotting and getting rid of syntax errors is pretty easy. Just read through and look for bad spelling. Keep an eye out also for too many spaces or not enough spaces and missing brackets. For every “(” there should be a “)” after it.

```
*hello.py - /home/jucy/hello.py (2.7.11+)*
name = raw_input("Please enter your name: ")
print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."
#Every ( has a matching )
#Sometimes they are nested inside each other. Like this: str(len(name))
```

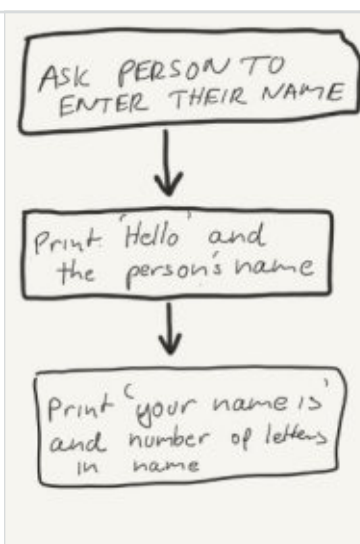
Step 3

To fix semantic errors you should work through your program one step at a time and check each step against your flowchart. Instead of looking at the whole program, just check each step one bit at a time. Debugging semantic errors is a pain but you'll feel great when you find the error and fix it.

```
*hello.py - /home/jucy/hello.py (2.7.11+)*
name = raw_input("Please enter your name: ")
print "Hello " + name
print "Your name is " + str(len(name)) + " letters long."
```

Step 2

Fixing semantic errors is trickier and they happen more frequently as you write bigger and better programs. The first thing to do is sit down and think about what the program is supposed to do. Sketch it out, giving each step arrows in between. This is called a ‘flowchart’. You don't need to write one before programming, that's a bit old school, but they do still come in handy.



Step 4

You might be wondering why it's called ‘bug’ and ‘debug’. In the old days, computers used to be huge; big enough for real bugs to crawl around inside. In 1945 US Navy Rear Admiral Grace Hopper was working on the giant Harvard Mark II machine. She found a bug in the computer and entered it in the logbook with “first actual case of bug being found”.



Learning If and Else in Python

Programs don't just run from start to finish. They twist and turn on the way, taking different branches and reacting to different things. They also do the same things over and over again. This is what makes them smarter than the average calculator.

If and Else

Conditions form the bedrock of computer programming. Once you understand how conditions work, you'll be on your way to being a programmer. Fortunately Python is written in plain language and it's pretty easy to understand terms like "if" and "else".

Step 1

The word 'if' is pretty powerful in Python. With the word 'if' your program decides if it's going to do something or not. This is when a computer does one thing, if the condition is right (or "True" in logic-speak). The "condition" is the bit that follows directly after 'if'.

if

Step 3

Here's how this works. You write the 'if' statement followed by the condition. Then on the next line you press space four times to create an indentation. This tells Python that if this condition is True then run all these lines of indented code. If the condition is False, skip past all the indented code and carry on.

Statement Condition
↓ ↓
if today is sunny:
 Call friends
 Walk to park
 Buy ice cream
↑ ↑ ↑ ↑
Four spaces
(not tabs)

Step 2

Imagine tomorrow is a Saturday and you're trying to plan out what to do with the day. If it's nice and sunny you want to meet up with your friends in the park and buy an ice cream. This is how your plan might look:

if today is sunny:

 Call friends
 Walk to park
 Buy ice cream

if today is sunny:
 Call friends
 Walk to park
 Buy ice cream

Step 4

The 'if' statement typically forms an optional part of a sequence. You might start the day by having breakfast and brushing your teeth. Then you hit the 'if' statement. If it's sunny, you'll do the intended stuff: call your friends, walk to the park and buy an ice cream. After that, whether it was sunny or not, you'll go back to the unindented stuff and watch television.

Have breakfast
Brush teeth
if today is sunny:
 Call friends
 Walk to park
 Buy ice cream
Watch television

Step 5

'If' has a partner statement called "else". As the name suggests, this is an alternative indented block of text. So if it's sunny, you might go to the park. Else you might sit around playing video games; both have text indented with four spaces. This is known as conditional branching. It runs one of the indented blocks of text or the other.

```
if today is sunny:
    Call friends
    Walk to park
    Buy ice cream
else:
    Play video games
```

Step 6

It's not uncommon to find 'if' statements nested inside other 'if' statements. In this case you have an indentation inside an indentation. This plan might be to go to the park if it's sunny and buy an ice cream, if the ice cream van is present. If it's not sunny then play video games. It's okay, if a bit confusing, but you shouldn't have three 'if' statements nested. That's considered too confusing.

```
if today is sunny:
    Walk to park
    if ice cream van:
        Buy ice cream
else:
    Play video games
```

Four-letter Word

Our sunny trip to the park was what's known as dummy code. This explains how stuff works but it's not actual code that Python can understand. We're going to put 'if' and 'else' into action.

Step 1

Start up IDLE in interactive mode and enter **if True:** and press return (don't forget the colon ":"). Notice that the cursor goes to the next line, already indented. Enter **print "I run because it's True!"** Press return twice to run the code.

```
Python 2.7.11+ Shell
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:00:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>> if True:
>>>     print "I'll run because it's true"
>>>
I'll run because it's true
>>> |
```

Step 3

Let's create a program to show this off in more depth. Open IDLE and choose File > New. Enter this code and

press F5:

```
word = raw_input("Please enter a four-letter word: ")
if len(word) == 4:
    print word + " is a four-letter word. Careful now!"
else:
    print "That's not a four-letter word. Try harder."
```

Remember you indent with four spaces. Never, ever press the tab key.

```
four_letter_word.py - /home/facy/four_letter_word.py (2.7.11+)
four_letter_word.py - /home/facy/four_letter_word.py (2.7.11+)
File Edit Format Run Options Window Help
word = raw_input("Please enter a four-letter word: ")
if len(word) == 4:
    print word + " is a four-letter word. Careful now!"
else:
    print "That's not a four-letter word. Try harder."
```

Step 2

Now let's try something false. Enter **if 2 + 2 == 5:**, press return and **print "Math works!"** Press return twice and nothing happens. The double equals sign ("==") is Python's way of saying "equals"; we'll look at this in more detail later. Now try again. Enter:

```
if 2 + 2 == 4:
    print "Math works!"
```

```
Python 2.7.11+ Shell
Python 2.7.11+ Shell
Python 2.7.11+ (default, Apr 17 2016, 14:00:29)
[GCC 5.3.1 20160413] on linux2
Type "copyright", "credits" or "license()" for more information.
>>> if True:
>>>     print "I'll run because it's true"
>>>
I'll run because it's true
>>> if 2 + 2 == 5:
>>>     print "Math works"
>>>
>>> if 2 + 2 == 4:
>>>     print "Math works"
Math works
>>> |
```

Step 4

Save the program and press F5. It will print "Please enter a four-letter word." Enter a four-letter word of your choosing and press Return. It will say, "four is a four-letter word. Careful now!" Press F5 to run the program again. This time enter a word that hasn't got four letters. It will say, "That's not a four-letter word. Try harder."

```
four_letter_word.py - /home/facy/four_letter_word.py (2.7.11+)
four_letter_word.py - /home/facy/four_letter_word.py (2.7.11+)
File Edit Format Run Options Window Help
Please enter a four-letter word: four
four is a four-letter word. Careful now!
>>>
Please enter a four-letter word: four
That's not a four-letter word. Try harder.
>>> |
```


Run Ubuntu on a Windows 10 PC

It is possible to run a full Linux distribution, like Ubuntu, on a Windows PC without installing it. This is useful for a number of reasons but initially it is a great way to try out Linux itself, or even a new distribution, before you commit to installing and using it on your computer.

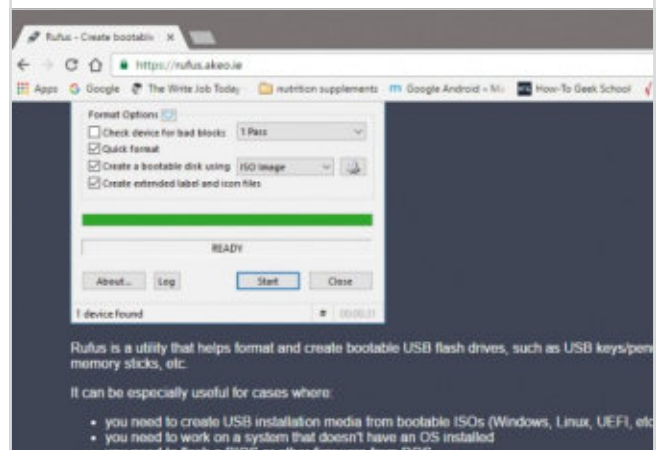
Creating a Bootable USB Drive

You can try Ubuntu and other distributions from a bootable DVD but it is usually easier and more convenient to use a USB flash drive, and that is what we will create here.

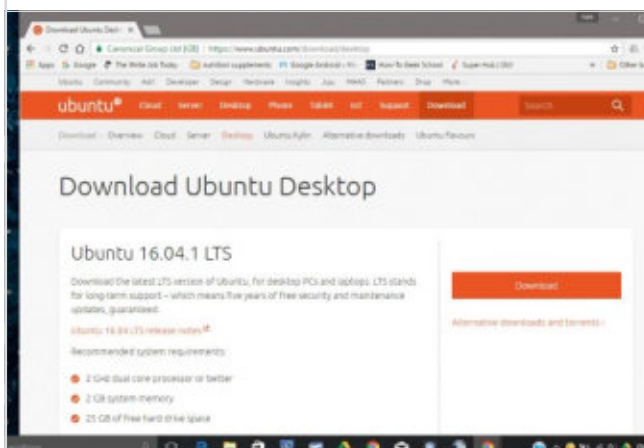
Step 1 To run Ubuntu from a USB stick, you will need one which has at least 2GB capacity and preferably more than that (4 to 8GB is recommended). You can buy a 4GB USB stick very cheaply and as it can be used again for different purposes, it is a useful thing to have if you don't already.



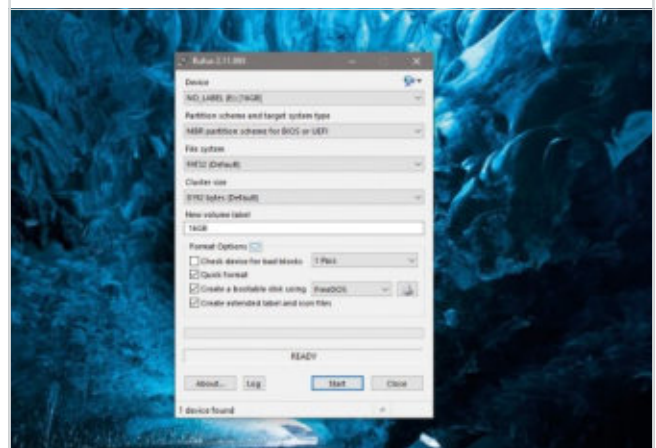
Step 3 You now need to get Ubuntu onto the USB stick. This can't be done by simply dragging and dropping the file onto the drive, as if you were copying a photo over. You'll need to make the stick a Bootable Drive. One of the best tools for doing this is called Rufus 2.11: <https://rufus.akeo.ie/>.



Step 2 To create a bootable USB from within Windows, the next thing you need to do is download the Linux distribution you want to use. We are using Ubuntu 16.04.1 LTS (Long-Term Support), that can be downloaded from the Ubuntu download page: www.ubuntu.com/download/desktop.

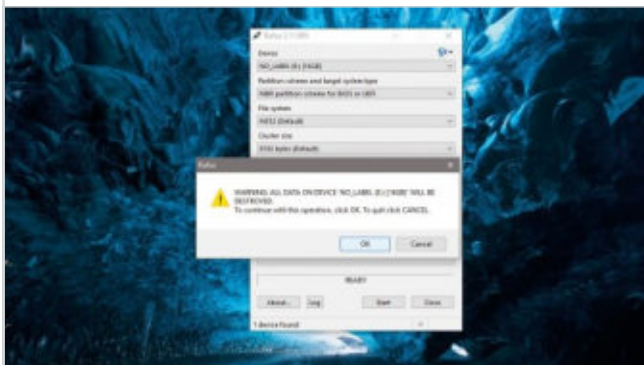


Step 4 Once downloaded and installed on your PC, click the icon to open Rufus and select your USB stick in the Device dropdown. Click the CD Rom icon next to the FreeDOS dropdown, then find your downloaded Ubuntu ISO and click Open and then Start.

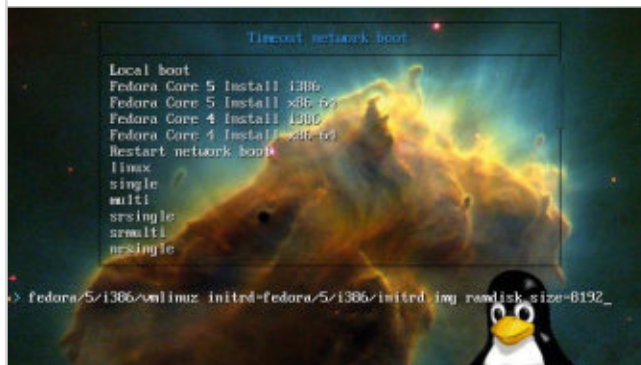


Step 5

Click 'Yes' when you're asked to download Syslinux software and then 'OK' to write in ISO Image mode. Confirm that your USB stick is selected and then 'OK' to continue. The process may take a few minutes, so be patient and wait for the message to tell you it is completed.

**Step 6**

If you are wondering, Syslinux is a boot loader for the Linux operating system that runs on an MS-DOS/Windows FAT filesystem. It is intended to simplify first-time installation of Linux and for creation of rescue and other special purpose boot disks.



Booting from a USB Drive

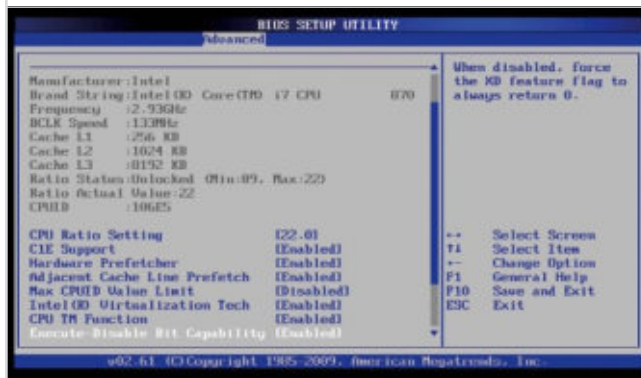
Now you have the Linux ISO file (in our case, Ubuntu) copied onto your bootable flash drive, you are ready to boot into the OS. Here is the exact process you will need to follow to change the boot order.

Step 1

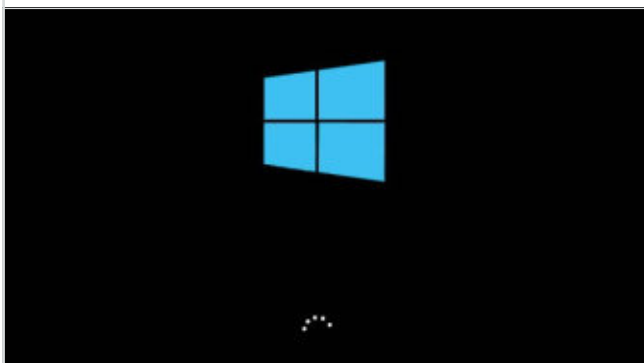
Turn off your Windows computer and insert the USB drive with the Ubuntu ISO file on it. You now need to tell your computer to boot from that USB stick and not from the hard drive, and therefore Windows, as it normally would. Some newer computers can start up automatically from USB.

**Step 3**

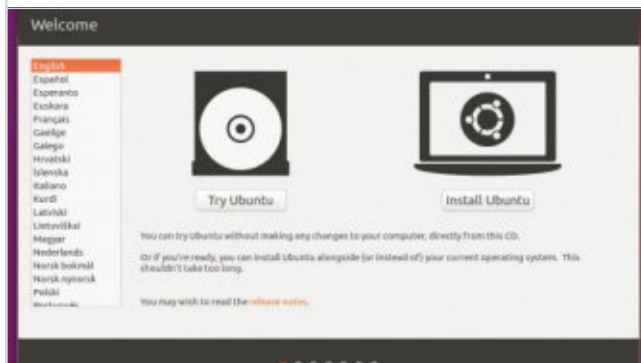
Once into the Set up/BIOS screen, look for the option to change the 'Boot Device'. This may be on the main screen, or within the System tab/section. Depending on your computer and how your USB key was formatted, you should see an entry for 'removable drive' or 'USB media'.

**Step 2**

If your computer does not automatically do this, you will need to change the device from which the computer starts up to the USB. You can usually do this by watching for a 'Enter Setup' message appearing before Windows starts and pressing the key shown (this varies between devices).

**Step 4**

Move this to the top of the list to force the computer to start from USB rather than the hard disk; save your changes and continue. Choose your preferred language and click on Try Ubuntu. Your live desktop should appear. If you then want to, double-click on 'Install Ubuntu 16.04 LTS'.



Enable Bash in Windows 10

Bash is the default shell included within Ubuntu and other Linux distributions. Users type commands into a shell to execute scripts and or run commands and tools to accomplish many tasks. It can now be enabled in Windows 10. This is a real native Bash Linux binary running on Windows itself.

Bash in Windows

The Bash shell isn't available to use by default, it needs to be activated, and can only be activated after the Anniversary update has been applied.

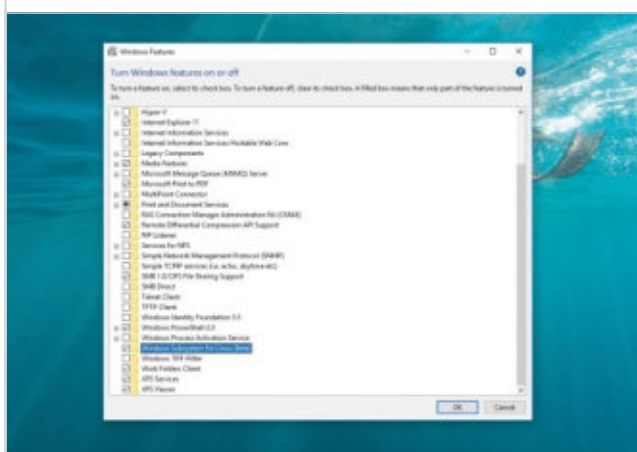
Step 1

The first thing you need to do is check that the PC is running the required 64-bit version of Windows. The PC needs to be updated to Windows 10 Anniversary or later. If you are not sure, you can check in Settings > About and look for OS Build and System Type.



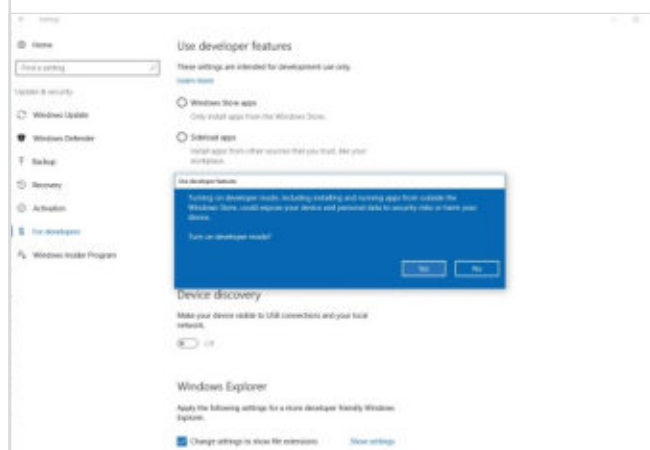
Step 3

You now need to enable Windows Subsystem for Linux. WSL is a new Windows 10 feature that enables you to run Linux command-line tools directly on Windows, alongside Windows desktop and modern Microsoft store apps. You'll learn more about doing this in the next chapter.



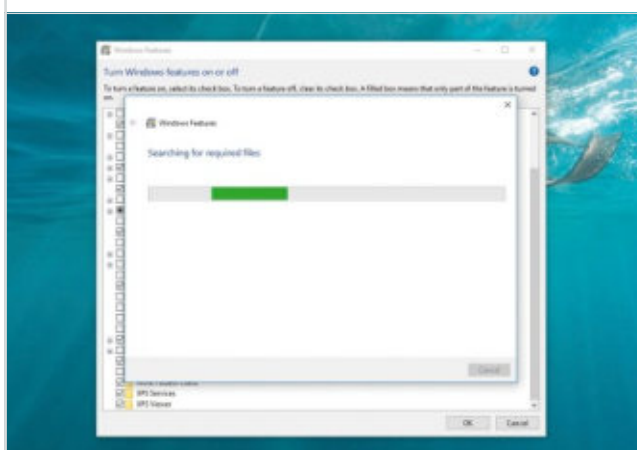
Step 2

Now you have checked the platform is ready, you need to make a few changes so that Bash can be activated. Go to Settings again and then Update and Security. At the top of the window you will see the Developer Features section. Click the 'Developer Mode' radio button, wait and then restart.



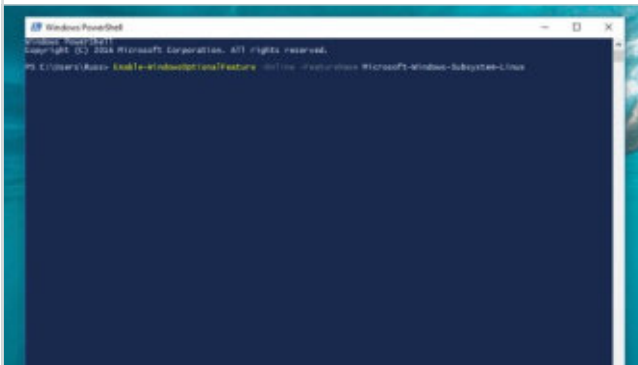
Step 4

Step 4 If you prefer to enable the feature through the GUI, click Start and search for “Turn Windows features on or off”; just type ‘turn’ to see this option. Scroll down almost to the bottom of this panel and select the check box next to ‘Windows Subsystem for Linux (Beta)’ and then click OK.



Step 5

You can also enable WSL using a command-line. Open a PowerShell prompt as the administrator by searching for 'Windows Powershell', right-click and choose 'Run as administrator' and type: **Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux**

**Step 6**

You will now need to restart the Windows PC before you go any further. It is important that you do restart when prompted as some of the infrastructure that Bash on Windows requires can only be loaded during Windows' boot-up sequence. Once the PC has restarted, you are ready to use Bash.

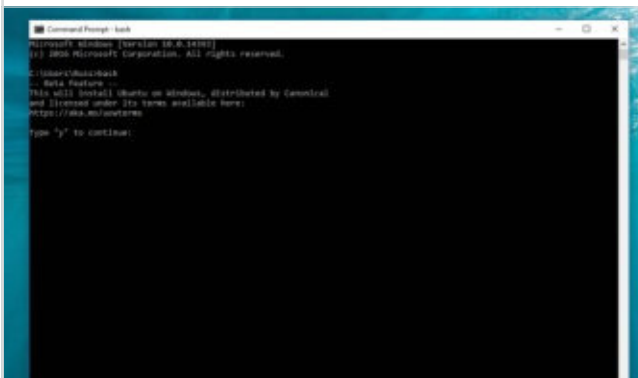


Run Bash on Windows 10

With everything set up, you can now run the Bash shell on your Windows 10 computer. Once activated, it will always be available to use.

Step 1

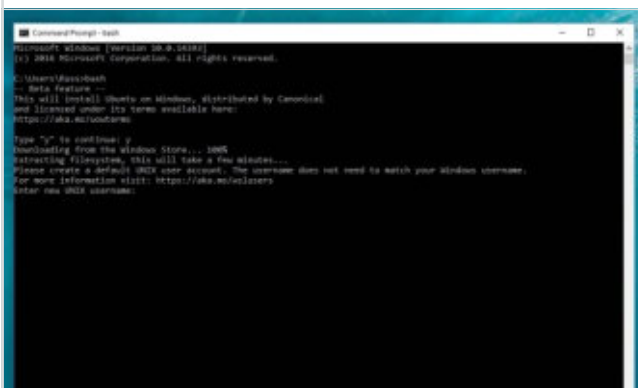
To begin running Bash on the Windows 10 PC, you need to first open a Command Prompt. Once open, simply type "bash" and tap Enter. You will then need to type "Y" to accept the license agreement. A progress counter will be shown in the command prompt window.

**Step 3**

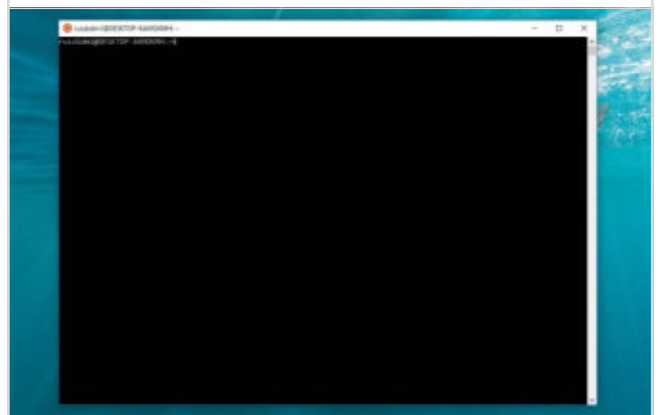
To launch Bash on Windows, either run bash at a cmd/ PowerShell command-prompt or use the Start menu shortcut. After installation your Linux file system components will be located at: C:\Users\<Windows user name>\AppData\Local\lxss\.

**Step 2**

The first time you install Bash on Windows, you will be prompted to create a UNIX username and password; this can be different from, and has no relationship to, your Windows username and password.

**Step 4**

This directory is marked as a system file that is hidden by default. Accessing this location directly is not advised due to caching between the Linux and Windows file systems.



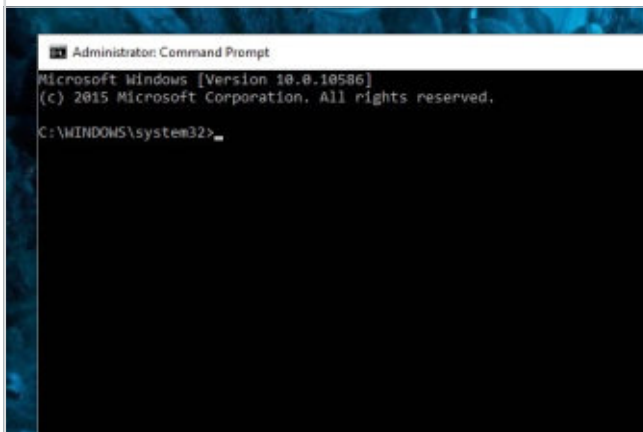
Add a Shutdown Timer to the Desktop

A shutdown timer allows you to delay the shutdown of your computer in the event that you need to leave it on whilst it completes a particular function, software updates for example, but can't stay around to shut it down manually. The process is fairly straightforward and the timer is unobtrusive.

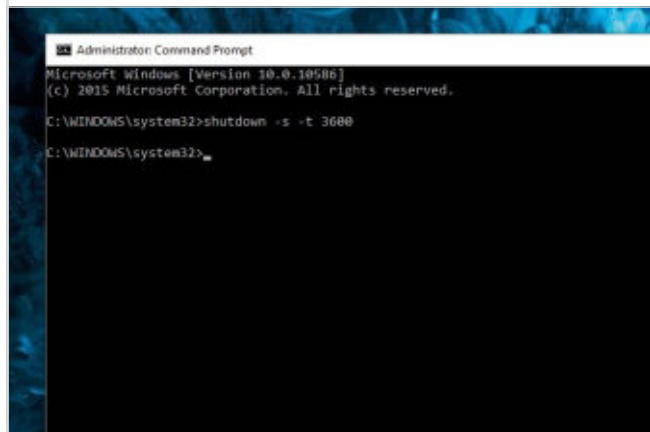
Adding the Timer

Before you can add a shutdown timer to the desktop, you need to understand how to create one using the Command Prompt tool. The initial set up might seem slightly complicated but is much easier after the first time.

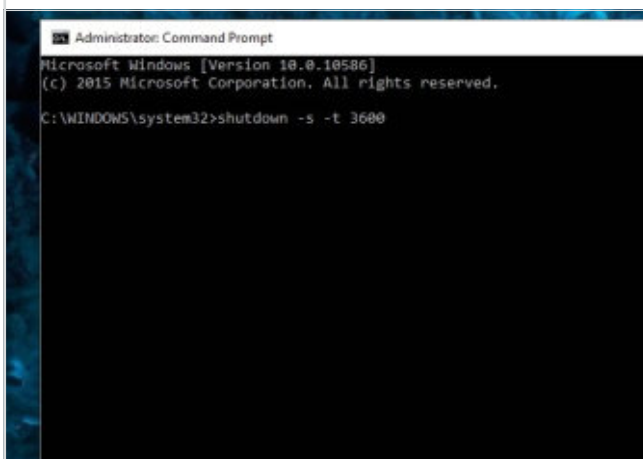
- Step 1** The first thing you need to do to create a shutdown timer manually, is open the Command Prompt. You can do this easily by pressing Windows + X and then selecting "Command Prompt" or "Command Prompt (Admin)" from the menu that appears.



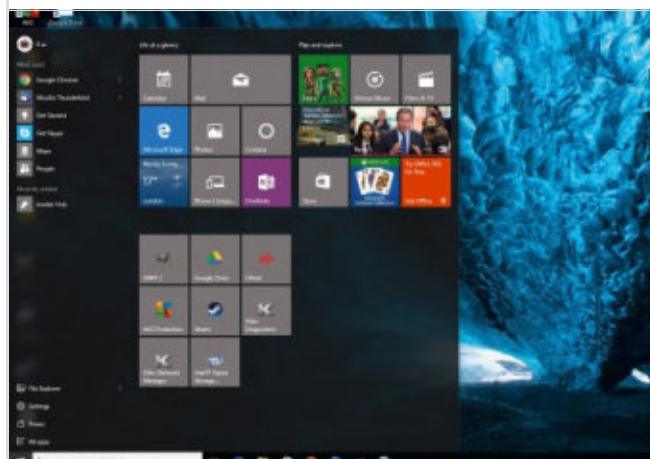
- Step 3** Press Enter to complete the command and set the timer going; you won't see anything on screen just yet, that part comes in a moment. If you input the wrong time or entered the command by mistake, you can cancel the timer by typing **shutdown -a** in Command Prompt.



- Step 2** In the Command Prompt, type the command **shutdown -s -t XXXX**. The "XXXX" should be the time in seconds you want to elapse before the computer shuts down. For instance if you want the computer to shut down in one hour, the command should look like **shutdown -s -t 3600**.

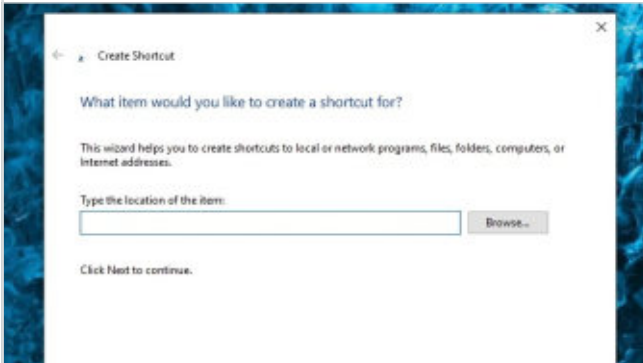


- Step 4** You can do this each time you need to use a shutdown timer, which is not really a problem if you only rarely use it, or you can create a shutdown timer shortcut that can be placed on the desktop. The only real problem with a shortcut is that the shutdown time is fixed.



Step 5

Step 5 Right-click on the desktop, hover over New and select Shortcut in the side menu. In the path field type `shutdown.exe -s -t XXXX` (where “XXXX” is the time in seconds) and click Next. Enter a name for the shortcut, for example “Shutdown 1 Hour”, and click Finish.



Step 6

Step 6 Place the shortcut out of the way on your desktop. Every time you double-click the shutdown timer shortcut, the timer will start. To cancel the timer, you can create a second shortcut using **shutdown.exe -a** or enter the **shutdown -a** command in Command Prompt.



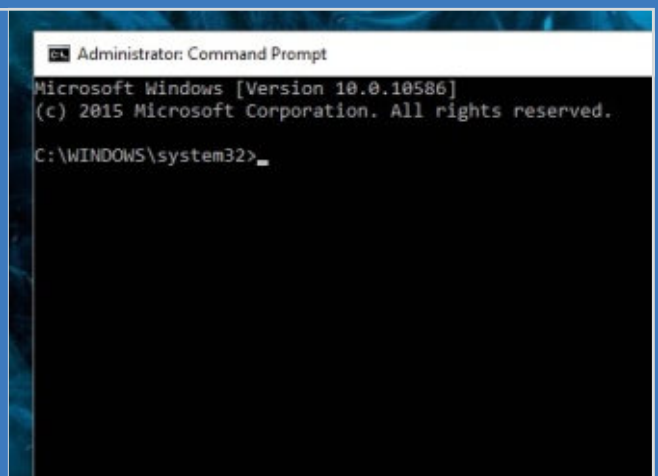
COMMAND PROMPT TRICKS

Using the Command Prompt to start a shutdown timer is just one of hundreds of ways this admin tool can be used. Let's take a look at a few other ways.

1. Command Prompt Function Keys

If you are finding yourself using the Command Prompt tool a lot, these F Key shortcuts can come in very handy.

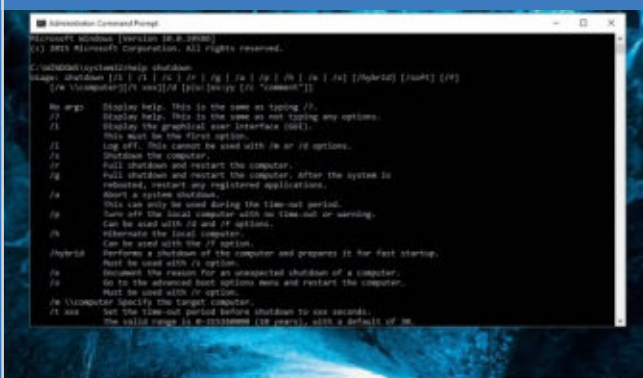
- F1:** Pastes the last executed command (character by character)
- F2:** Pastes the last executed command (up to the entered character)
- F3:** Pastes the last executed command
- F4:** Deletes current prompt text up to the entered character
- F5:** Pastes recently executed commands (does not cycle)
- F6:** Pastes ^Z to the prompt
- F7:** Displays a selectable list of previously executed commands
- F8:** Pastes recently executed commands (cycles)
- F9:** Asks for the number of the command from the F7 list to paste



2. Command Prompt Help

2. Command Prompt Help

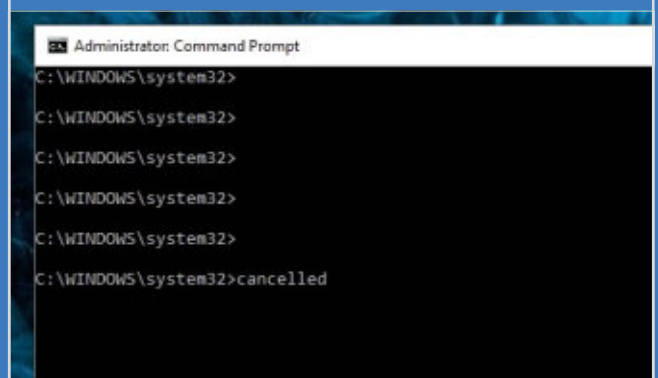
The help command (type `help [command]`) does not provide help for every Command Prompt command. However, any command can be suffixed with the `/?` option, usually called the help switch, to display detailed information about the command's syntax and even some examples.



3. Abort a Command

3. Abort a Command

Just about any command can be stopped in its tracks with the abort command: Ctrl-C. If you haven't actually executed a command, you can just erase what you've typed but if you've already executed it then you can use Ctrl-C to stop it. Remember that even Ctrl-C can't undo things that aren't undoable.



Windows 10 Registry Tweaks

The Windows Registry can be a scary place to visit if you don't understand how things work. It is true that there are often simpler ways to action some of the changes shown below but understanding the inner workings of your Windows 10 PC is key to understanding how to accomplish more with your screen time.

WHAT IS THE REGISTRY?

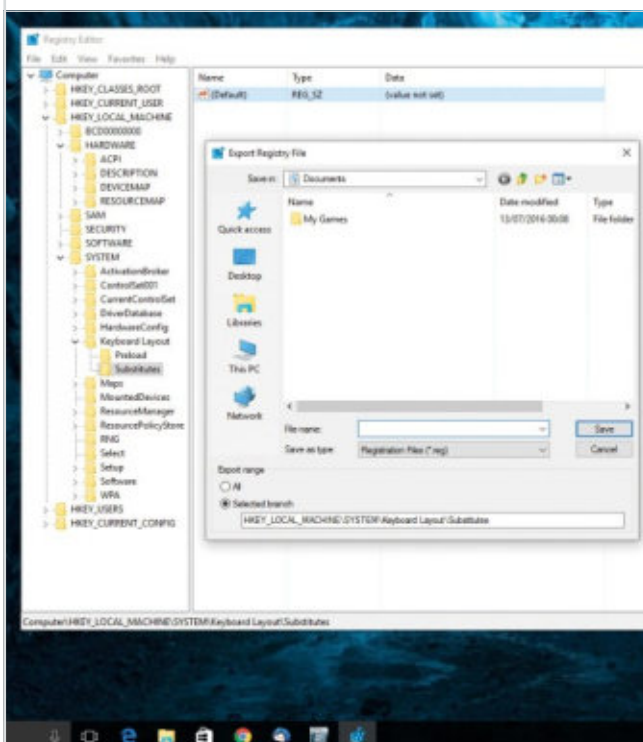
The Windows Registry is a hierarchical database that stores low-level settings for the Microsoft Windows operating system and for applications that opt to use the Registry. The kernel, device drivers, services, Security Accounts Manager (SAM) and user interface can all use the Registry. The Registry also allows access to counters for profiling system

performance. Prior to the Windows Registry .INI files stored each program's settings as a text file, often located in a shared location that did not provide user specific settings in a multi-user scenario. By contrast the Windows Registry stores all application settings in one logical repository, a number of discrete files, and in a standardised form.

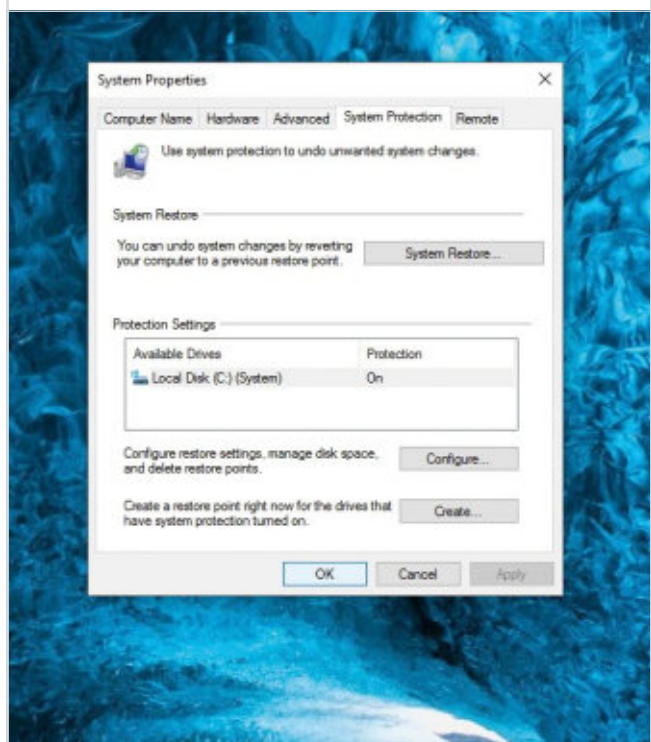
Backing Up Your Registry

Before you edit any part of your system registry, it is always a good idea to make a backup of all keys that you intend to edit. Here we will look at the simple and quick method of backing up Windows Registry keys.

Step 1 You can back up any of the keys in the registry by right-clicking on any of them in the editor and then selecting Export. This will save into a .reg file that can be run to reapply the old value of that key at a later date. This is the minimum backup step you should take before editing.



Step 2 An easier backup method is to make a System Restore point that includes a snapshot of the registry. Go to Start, type restore, select Create a restore point, select a drive and click Configure...; then pick Turn on system protection, set the Max Usage space and click OK.

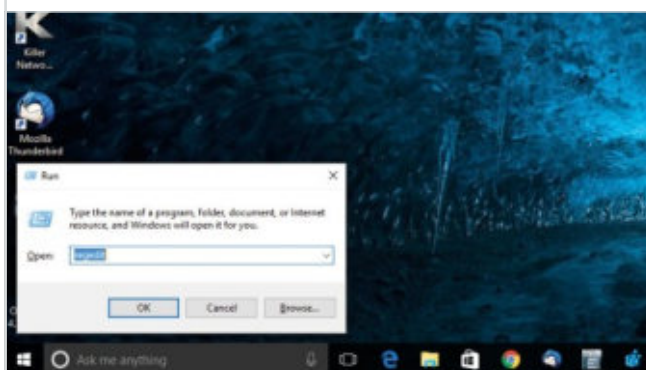


Registry Tweaks

So let's get down to tweaking some registry keys. Registry keys always start with HKEY, followed by the location in the file system. Once you find and select the HKEY you want, you will see that further options are available.

1. Access the Editor

To open the registry editor, all you have to do is open the Run prompt with Windows Key + R, then type in **regedit** and hit Enter. If you know a certain value you want to change, you can navigate through the registry to find it by clicking the + sign next to each registry key.

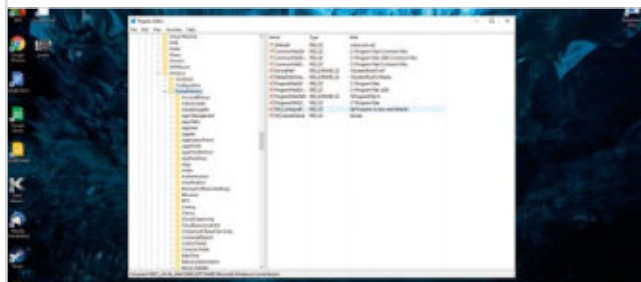


4. Disable System Tray Notification Balloon Pop-ups

In Registry Editor, go to following key:

HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced

Create a new DWORD value, name it **EnableBalloonTips** and set its value to 0. disable Wi-Fi Sense and Application Telemetry.

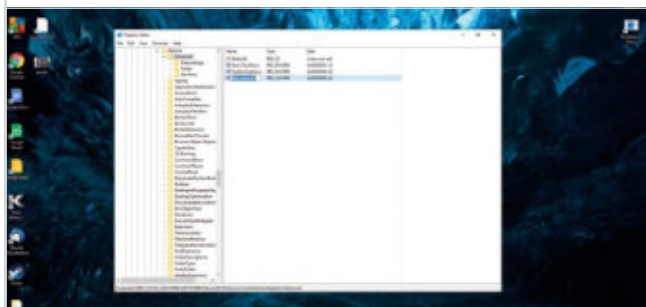


2. Increase Taskbar Transparency

In Registry Editor, go to following

key: **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\Advanced**

In the right side pane, create new DWORD **UseOLEDTaskbarTransparency** and set its value to 1.

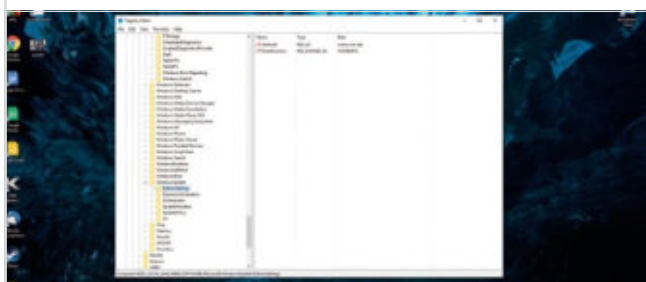


3. Prevent Windows Update from Automatically Restarting

In Registry Editor, go to following key:

HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\WindowsUpdate\AUkey

Right-click in the right pane and create a new 32-bit DWORD value named: **NoAutoRebootWithLoggedOnUsers**. Set its value to 1.



5. Hide Folders from This PC

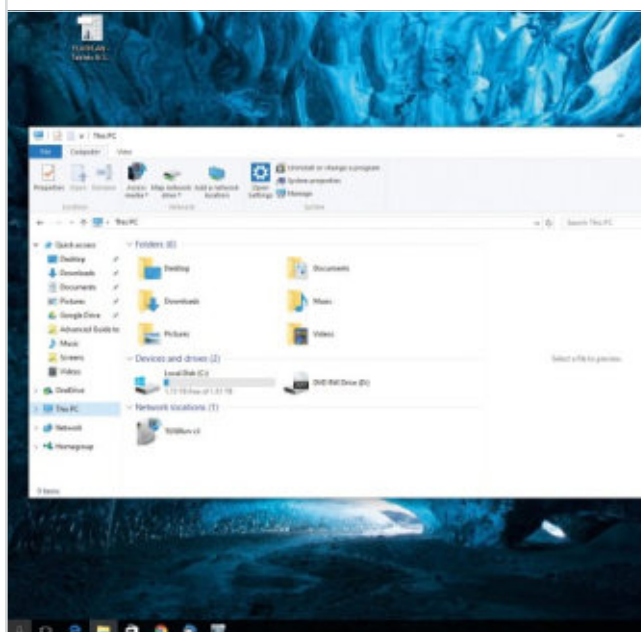
In Registry Editor, go to following key:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\FolderDescriptions\<FOLDER-GUID>\PropertyBag.

Substitute the **<FOLDER-GUID>** above with one of these:

Desktop: {B4FCC3A-DB2C-424C-B029-7FE99A87C641}
Documents: {f42ee2d3-909f-4907-8871-4c22fc0bf756}
Downloads: {7d83ee9b-2244-4e70-b1f5-5393042af1e4}
Music: {a0c69a99-21c8-4671-8703-7934162f1d}
Pictures: {0ddd015d-b06c-45d5-8c4c-f59713854639}
Videos: {35286a68-3c57-41a1-bbb1-0eae73d76c95}

If **ThisPCPolicy** is set to **Show**, then the folder is visible. If you change it to **Hide**, then the folder will be invisible.



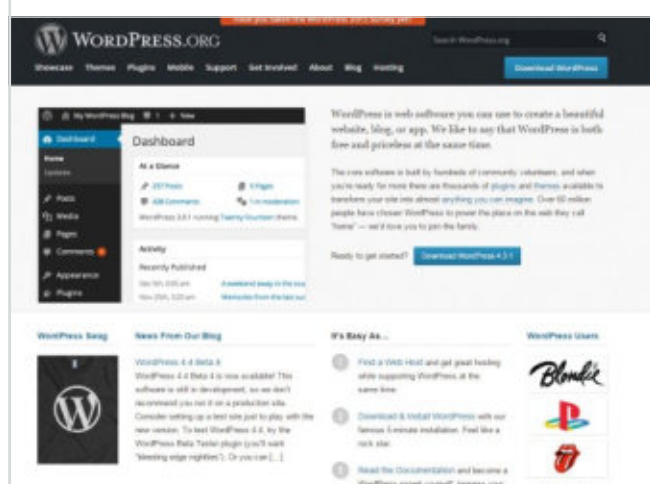
Installing WordPress on Windows 10

WordPress is one of the easiest and most popular website publishing tools available. It can also be a good introduction to working with HTML and CSS files in a design environment. If you are hosting WordPress yourself, you may need to learn a few new skills to get up and running.

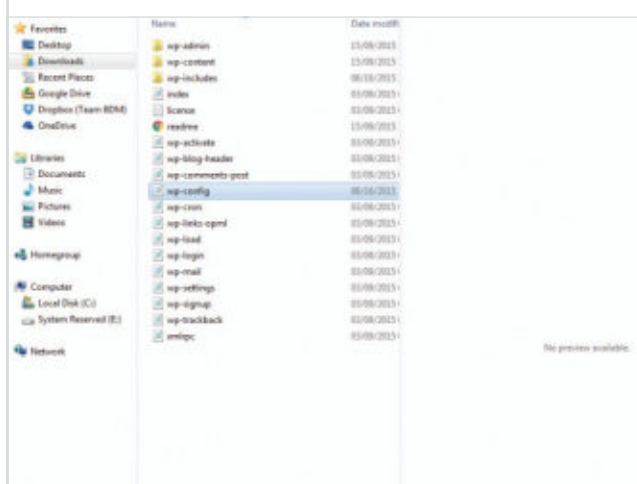
Uploading the Files

The first thing to do is get the core WordPress files onto your web server, generally the server provided by your hosting company, and be ready to install the WP software.

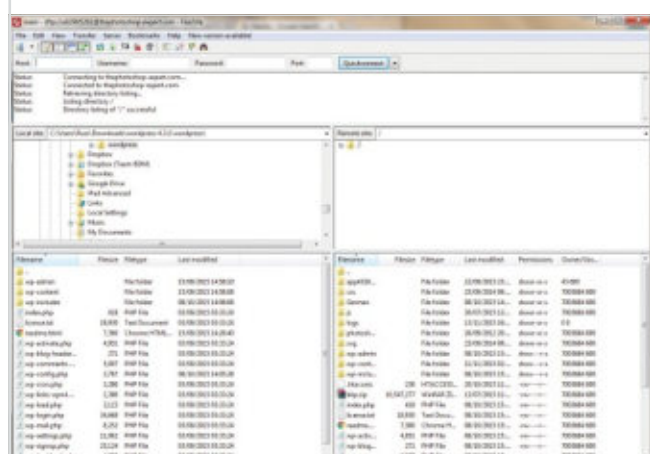
- Step 1** You first need to download the latest version of the WordPress files from the WordPress.org website (<https://wordpress.org/download/>). The files will be downloaded as a zipped folder. Extract the files to somewhere safe on your computer.



- Step 3** Before you upload the wordpress files, open the folder on your desktop and look for a file called wp-config.php (it may be shown as simply wp-config). It will be in the main folder, rather than in the wp-admin, wp-content or wp-includes folders.



- Step 2** You will need to upload the WordPress files to your hosting server. The easiest way to manage the upload is to use an FTP client (assuming you have a FTP account) such as CuteFTP. Alternatively, your web host will include a file management tool.



- Step 4** This file controls which database the WordPress install will use when it installs, and when the software is used, but will need to be configured with the correct information, including database name, username and password. See the boxout below for more information on wp-config.

```
// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define( 'DB_NAME', 'database_name_here' );

/** MySQL database username */
define( 'DB_USER', 'username_here' );

/** MySQL database password */
define( 'DB_PASSWORD', 'password_here' );

/** MySQL hostname */
define( 'DB_HOST', 'localhost' );
```

NOTE: Text inside /* */ are comments, for information purposes only.

Set Database Name

Replace 'database_name_here' with the name of your database, e.g. MyDatabaseName

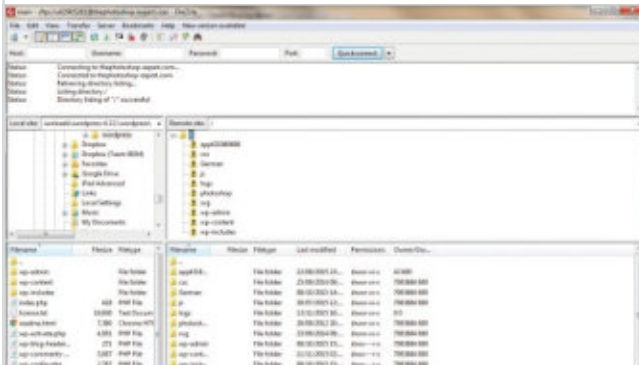
```
define( 'DB_NAME', 'MyDatabaseName' ); // Example MySQL database name
```

Set Database User

Replace 'username_here' with the name of your username e.g. MyUserName

Step 5

With the config file completed correctly and saved back into the WordPress folder, you can upload the whole thing to your hosting server. If WordPress is going to be powering your main site, upload to the root directory. If it will be a blog section on a main site, upload to a folder in root.

**Step 6**

If you are having problems uploading the files through the file manager that your server host provides, try downloading CuteFTP. You will need to get your FTP (File Transfer Protocol) from your web host and then follow the user instructions to set up CuteFTP.



```
* The base configuration for WordPress
*
* The wp-config.php creation script uses this file during the
* installation. You don't have to use the web site, you can
* copy this file to "wp-config.php" and fill in the values.
*
* This file contains the following configurations:
*
* * MySQL settings
* * Secret keys
* * Database table prefix
* * ABSPATH
*
* @link https://codex.wordpress.org/Editing_wp-config.php
*
* @package WordPress
*/

/** MySQL settings - You can get this info from your web host */
/** The name of the database for WordPress */
define('DB_NAME', 'database_name_here');

/** MySQL database username */
define('DB_USER', 'username_here');

/** MySQL database password */
define('DB_PASSWORD', 'password_here');

/** MySQL hostname */
define('DB_HOST', 'localhost');

/** Database charset to use in creating database tables. */
define('DB_CHARSET', 'utf8');

/** The Database Collate type. Don't change this if in doubt. */
define('DB_COLLATE', '');

/**#@+
 * Authentication Unique Keys and Salts.
 *
 * Change these to different unique phrases!
 * You can generate these using the {@link https://api.wordpress.org/secret-key/1.1/salt/ WordPress.org secret-key service}
 * You can change these at any point in time to invalidate all existing cookies. This will force all users to have to log in again.
 *
 * @since 2.6.0
 */
define('AUTH_KEY', 'put your unique phrase here');
```

EDITING WP-CONFIG.PHP

One of the only bits of file editing you will need to do to get WordPress set up is the changes to the wp-config.php file mentioned above. You will need to have a MySQL database set up on your web host and have all of its information to hand. Open wp-config with a text editing program and edit the following information:

1. Replace 'database_name_here', with the name of your database
2. Replace 'username_here', with the username displayed for your database

3. Replace 'password_here', with the your database password
4. Replace 'localhost', with the name of your database host (if unsure, try leaving as 'localhost')

Be careful to preserve the quotation marks. There are several other parameters you can alter in this document but unless you really know what you are doing, it is best left as is once you have updated the database information. Save the document back into the unzipped WordPress folder ready to be uploaded to your web server.

Installation Process

With the WordPress system files uploaded, you can begin the set up process. WordPress prides itself on providing a simple installation process, even for first time users.

Step 1

When all of the WordPress files have been uploaded to the correct location on your hosting server, including the all-important wp-config.php file, open the Internet browser on your computer. Type the URL of your WordPress install (e.g. www.mysite.com or www.mysite.com/blog).

Below you should enter your database connection details. If you're not sure about these, contact your host.

Database Name	<input type="text" value="wordpress_wp"/>	The name of the database you want to run WP in.
User Name	<input type="text" value="wordpress_wpuser"/>	Your MySQL username
Password	<input type="text" value="yourpassword"/>	...and your MySQL password.
Database Host	<input type="text" value="localhost"/>	You should be able to get this info from your web host, if localhost does not work.
Table Prefix	<input type="text" value="wp_"/>	If you want to run multiple WordPress installations in a single database, change this.

Step 2

The page will open and the automatic installation and set up will begin. If there were any errors in the wp-config file, this automatic installation will fail and an error message will be shown. If the install and set up is a success, you will be told in a message on screen.



Success!

WordPress has been installed. Were you expecting more steps? Sorry to disappoint you.

Username:

Password:

Step 4

You can now log in to your WordPress dashboard using the username and password you chose during the set up process. If you want your login details to be automatically filled whenever you try to log in, check the 'Remember Me' box.



Username:

Password:

☐ Remember Me

Lost your password?

[Back to The WordPress Blog](#)

Step 5

Your Dashboard will almost certainly show that updates are available (either to themes, preinstalled plugins or perhaps even the WordPress version), so it is a good idea to go through all of these and make sure everything is up to date before starting to add content.

The WordPress Blog

WordPress Updates

Last checked on 8th October 2015 at 9:12 pm. [Check again](#)

You have the latest version of WordPress. Future security updates will be applied automatically.

If you need to reinstall version 4.2.1 or 3.9.2, you can do so here or download the package and re-install manually.

[Re-install WordPress](#) [Download 4.2.1 or 3.9.2](#) [Hide this update](#)

The WordPress version contains built-in translation and various other localisation files. You can skip updating if you want to keep your current installation.

Plugins

The following plugins have new versions available. Check the ones you want to update and then click 'Update Plugins'.

[Update Plugins](#)

☐ Select All

☐ All items

You have version 3.1.3 installed. Update to 3.1.4. (New version 3.1.4 details. Compatibility with WordPress 4.2.1: 100% according to its author)

☐ Select All

[Update Plugins](#)

The WordPress Blog

Dashboard

Welcome to WordPress! We've assembled some links to get you started.

Get Started

[Install WordPress](#)

or, change your theme completely

Next Steps

[Write your first blog post](#)

[Add an about page](#)

[View your site](#)

More Actions

[Manage widgets or menus](#)

[Turn comments on or off](#)

[See more about getting started](#)

At a Glance

1 Post 1 Page

1 Comment

WordPress 4.2.1 running Twenty Fifteen theme.

Activity

Recently Published

Today: 0 To Do

Comments

From the WordPress to help world: It's this is a comment. To make a comment, just log in and use the post's comments. There you will have...

All Pending (0) Approved (0) Spam (0) Held (0)

Quick Draft

Title

Content

[Save Draft](#)

WordPress News

WordPress 4.2.1 Security and Maintenance Release - 13th September 2015

WordPress 4.2.1 is now available. This is a security release for all previous versions and we strongly encourage you to update your site immediately. This release addresses three issues, including two critical affecting news articles and a potential privilege escalation. WordPress version 4.2 and earlier are vulnerable to a remote code execution vulnerability when processing (WordPress tag) (WordPress tag) (WordPress tag). Reported by (WordPress tag).

WordPress: The First Half of the REST API is Officially Added to WordPress Core

WordPress: WP REST API Update 2015 - Where to the Word Press?

ROOT AND SUB DIRECTORIES

Where you upload your WordPress files on your hosting server is important. Uploading to a sub directory when you really want the files in the root directory will mean your URL will be incorrect and may cause other problems.

IN THE ROOT DIRECTORY

If you need to upload your files to your web server, use an FTP client to upload all the contents of the WordPress directory, but not the directory itself, into the root directory of your website.

If your files are already on your web server, and you are using shell access to install WordPress, move all of the contents of the WordPress directory, but not the directory itself, into the root directory of your website.

IN A SUBDIRECTORY

If you want to keep your files in a subdirectory, rather than the root, rename the WordPress directory to your desired name, then use an FTP client to upload the whole directory to the root directory of your web server.

If your files are already on your web server, and you are using shell access to install WordPress, move the WordPress directory to your preferred location within the root directory of your website and rename the directory to the name you want.

LOCAL WORDPRESS INSTALLATION



It isn't always advisable to experiment with a live WordPress site, installed at your domain, as it can confuse or alienate any visitors who find the site and see it constantly changing. In this case, you can use a Local Installation tool, such as Instant WordPress.

Instant WordPress is a complete standalone, portable WordPress development environment. It turns any Windows machine into a WordPress development server. It will even run from a USB key. Instant WordPress comes complete with its own built in Apache web server, PHP and MySQL installations that are started and stopped automatically; and includes a set of dummy WordPress posts and pages so that you do not have to create any data or posts to test themes and plugins.

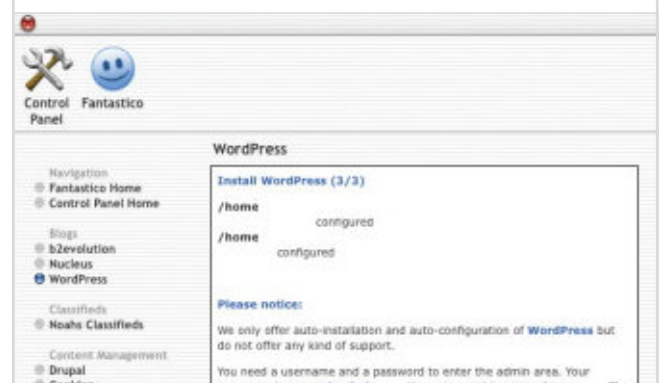
Automated Installers

Although, in our opinion, it is a good idea to get used to managing files manually, if you plan to run a WordPress-based website or blog, many web hosts offer automated tools for completing WordPress installation. Here is a guide to using one of the most popular, Fantastico.

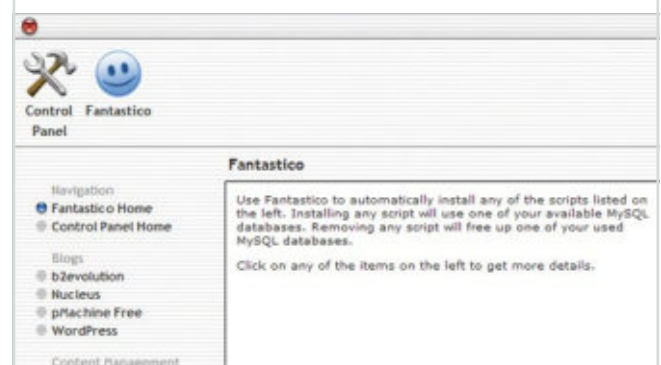
Step 1 Log in to your cPanel account and click on the Fantastico (or Fantastico Deluxe) option. If your web host does not use cPanel, it is unlikely that they will offer Fantastico as an option.



Step 2 Once you enter Fantastico, there is a Blogs category on the left hand side under which you will find WordPress. Click on it. Click on the New Installation link in the WordPress Overview.



Step 3 To complete installation, you will need to fill in the various details requested, including the correct domain (if you have multiple domains) and login details. Once complete, click Submit.



Essential Cortana Commands List

The more you use Cortana and the more you get used to the ways in which it can help you, the more impressive it becomes. Cortana can help you with everything, like checking events, setting reminders, composing emails and launching apps. All this and without having to even touch the keyboard.

Scheduling/Reminders

Cortana is very good at understanding conversational commands, so try to remember to talk to her as if you are requesting something from a human.

Check Calendar Events: “How’s my schedule looking?” or “What appointments do I have next week?” or “What day is my doctors appointment?”

Add an appointment: “Add bank appointment to Monday at 11 am.” or “Schedule meeting with Dave tomorrow at 10 am.”

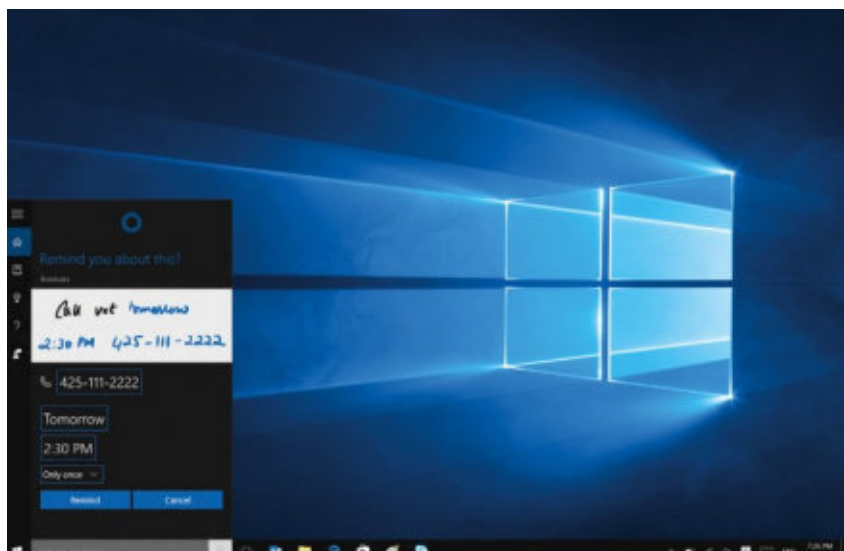
Move an appointment: “Move my bank appointment to Friday at 1pm.”

Set a reminder based on time, contact, or location: “Remind me to call Dad at 2 pm.” or “Remind me to check groceries when I get home.”

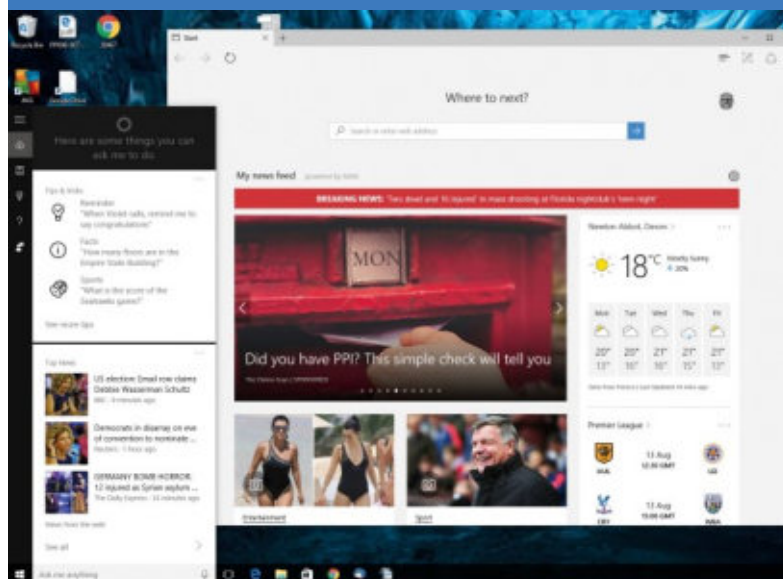
Set an alarm: “Set an alarm for 9 am.” or “Wake me up in an hour.”

See all alarms: “Show me my alarms.”

Ask about national holidays: “What day is Christmas this year?” or “When is the next public holiday?”



PERFORM FUNCTIONS



Launch a program or app: “Launch Dropbox” or “Open Mail”.

Open a website: “Open bdmpublications.com.” or “Show me microsoft.com”.

Make a phone call: “Call John” or “Call Paul on speakerphone” (Windows Phone only)

Take a note in OneNote: “Take a note” or “Note it down.” (followed by note content).

Compose an email: “Write an email to [contact] saying [message].”

Compose a text message: “Write a text to [contact] saying [message]” (Windows Phone only)

View messages from a specific contact: “Show me emails from Jim.” or “Show me messages from Paula.”

Control settings: “Turn on/off Wi-Fi”, “Turn on/off Bluetooth”, “Turn on/off Airplane Mode” etc.

Control the Groove Music app: “Play [artist/song/genre/playlist/album]” or “Shuffle the music”

MAPS AND TRAVEL

Check current location: “Where am I?”

Get directions: “Show me driving/public transit/walking directions to [location].”

Check travel time: “How long will it take me to get to [location]?”

Traffic updates: “What is traffic like on the way to [location]?”

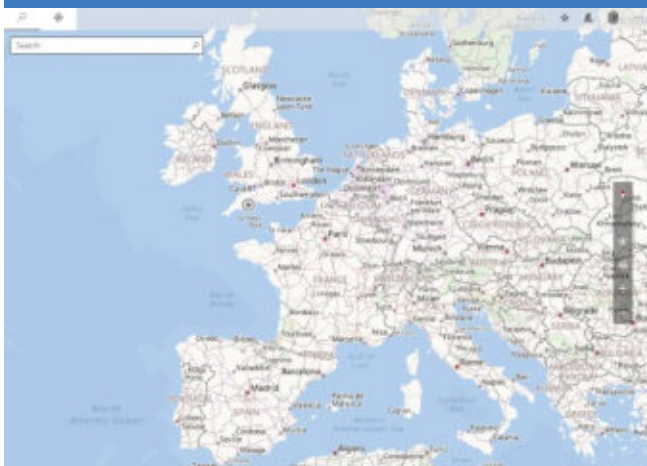
Show a map of a specific location: “Show me a map of North London” or “Show me a map of Florida”

Track flight status: “Is my flight on time?” (must be synced with an email account)

Check weather for any location: “What is the weather like in Madrid?”

Translate a word or phrase: “How do you say ‘thanks’ in Swedish?” or “How do you say ‘airport’ in Japanese?”

Convert currency: “What is 900 US dollars in Euros?” or “How much is 1,000 yen in Euros?”



GENERAL QUERIES

Ask about the weather: “What is the weather like?” or “What will the weather be like tomorrow?” or “Is it going to rain on Monday?”

Perform simple calculations: “What is 15 times 13?” or “What is 126 divided by three?”

Perform conversions: “What is five miles in kilometres?” or “How many ounces in a kilogramme?”

Word definitions: “What is the definition of ‘supreme’?” or “What does ‘abstain’ mean?”

Hear news headlines: “Show me the top headlines.”

Search for date-specific pictures, videos, documents etc.: “Find pictures from last week” or “Find documents from April 2016” or “Find videos from yesterday.”

See basic search results in Cortana’s window: “How old is Leonardo DiCaprio?” or “Who is the Manchester United’s manager?” or “When was Big Ben built?”

Search files by name: “Find a document called ‘Expenses’” or “Can you find a picture called ‘kittens fighting’?”

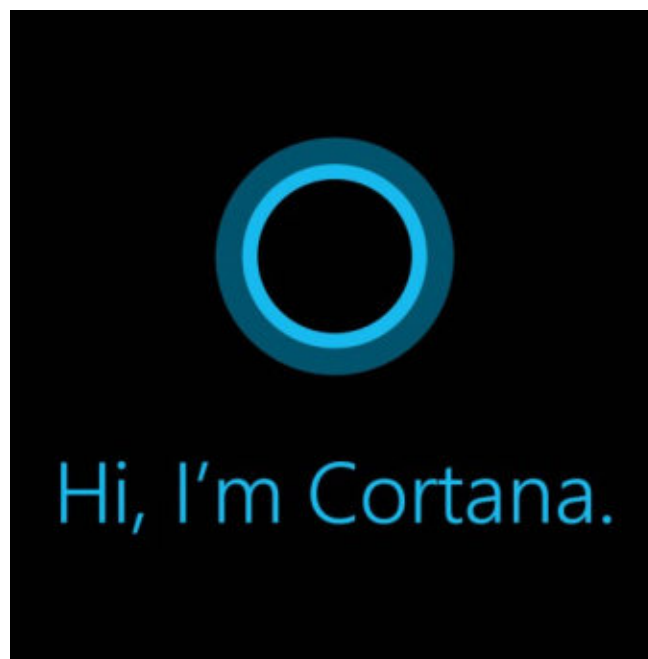
Track packages: “Where are my packages?” (requires a synced email account)

Check a sports score: “What was the score of the last Redsox game?”

Identify a song that’s playing: “What is this song?”

Have Fun with Cortana

Just as with other well known personal assistants, the developers of Cortana have made it capable of answering less sensibly and even cracking a few jokes. This is not a complete list, so why not try out a few of your own!



Check Calendar Events: “How’s my schedule looking?” or “What appointments do I have next week?” or “What day is my doctors appointment?”

Add an appointment: “Add bank appointment to Monday at 11 am.” or “Schedule meeting with Dave tomorrow at 10 am.”

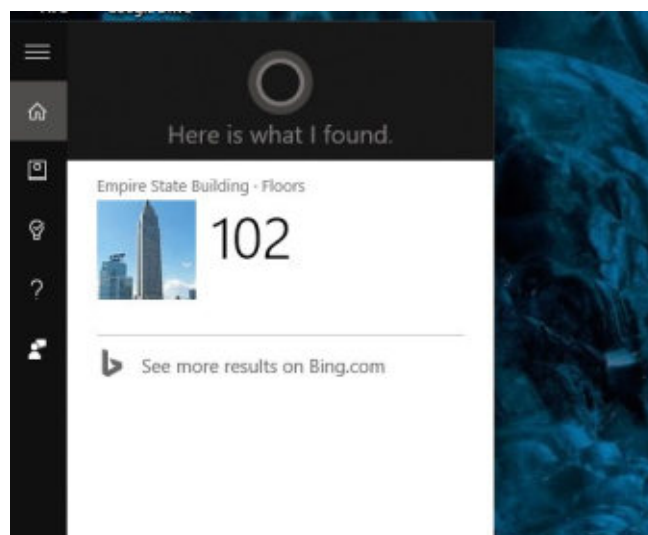
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Set an alarm: “Set an alarm for 9 am.” or “Wake me up in an hour.”

See all alarms: “Show me my alarms.”

Ask about national holidays: “What day is Christmas this year?” or “When is the next public holiday?”



Setting Cortana Reminders

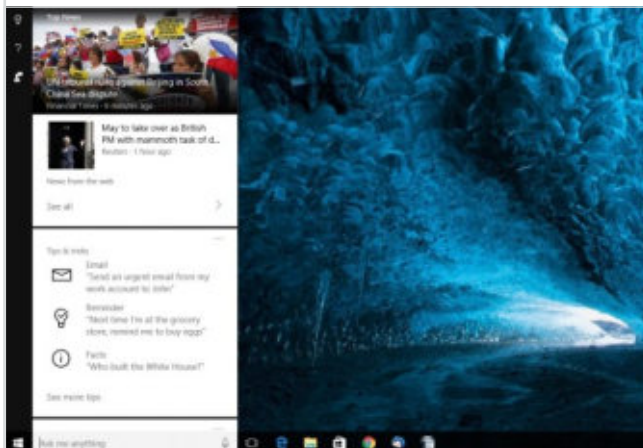
There are several different reminder types you can set with Cortana, some time based others photo reminders. Almost all can be set using either your voice or manually by entering them into the main reminders screen. If using a Windows phone, you can also sync your reminders so that they show on both devices.

Time Based Reminders

Time based reminders are perfect if you want to set an alert at the same time each week or if you want to avoid missing an important appointment.

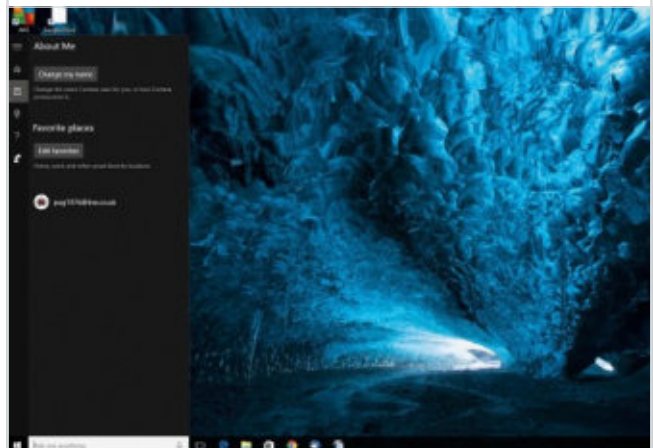
Step 1

The easiest way to wake Cortana up and get her listening is to click the microphone icon in the search box or press Windows + C shortcut on the keyboard. You will hear an audio signature to let you know that the personal assistant is ready and waiting to assist.



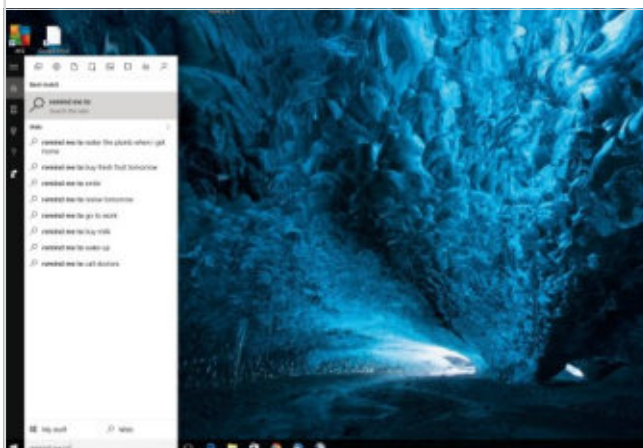
Step 3

If Cortana doesn't hear or understand your request, she will ask you for confirmation or to repeat the request. She might also ask for further details, depending on how you have set her up; you can add details to Cortana to make her more useful, such as your home address.



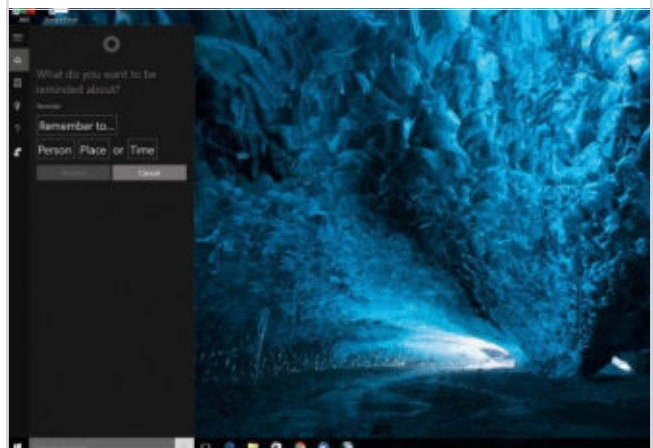
Step 2

You can now set your reminder in a variety of different ways. Cortana is pretty good at understanding inexact terms. For example you can say "remind me to pick my wife up in half an hour" or "Remind me to go to the post office tomorrow morning".



Step 4

To add a reminder manually, click in the Cortana search box, and then click the light bulb icon (the Reminders icon). To add a new reminder, click the + button at the bottom, complete the "Remember to" and "Time" boxes and then click "Remind".

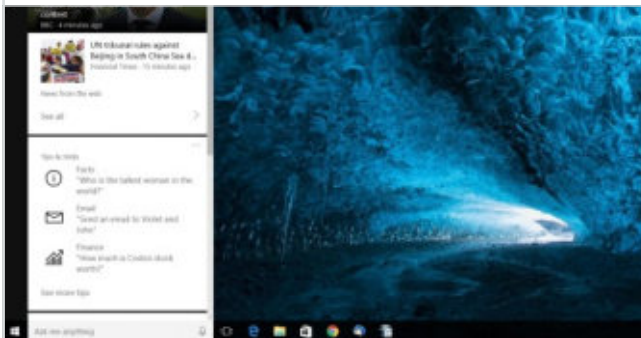


Location and Contact-Based Reminders

You can tell Cortana to remind you of certain things when you leave or arrive at specific locations.

Step 1

Wake Cortana up and get her listening by clicking the microphone icon in the search box or pressing the Windows + C shortcut on the keyboard. You will hear an audio signature to let you know that the personal assistant is ready and waiting to assist.



Step 2

You can then say something like “Remind me to ring mum when I get home” or “Remind me to buy milk when I leave the office”. Again this works better if specific locations are known to Cortana, which we cover in other tutorials in this section.



Step 3

You can also tell Cortana to remind you anything next time you talk to certain people in your contacts book. An alert pops up when you send or open an email from that person. For example “Remind me to ask for the discount next time I talk to Kim”.

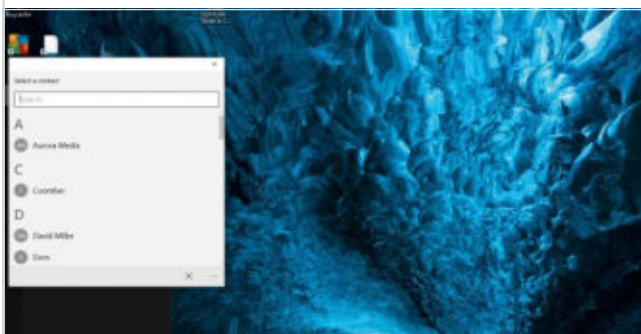
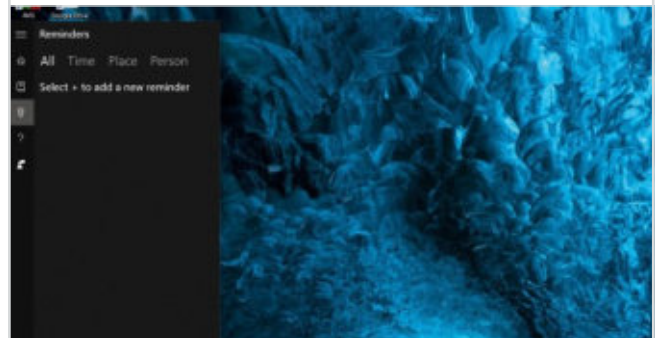


Photo Reminders

Set to be improved and expanded in future updates, this feature is nonetheless available to Windows 10 users right now.

Step 1

Image or photo reminders probably won't be appropriate for every situation but they could definitely come in handy at times. To set one up, open Cortana by clicking her icon on the taskbar. Open Reminders by clicking the light bulb icon and then the + icon in the bottom right corner.



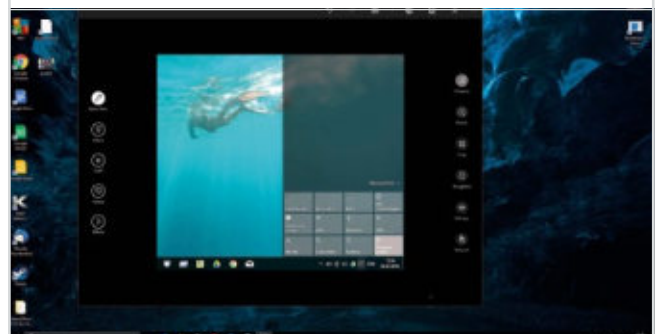
Step 2

Type your reminder word or phrase, and then click the camera icon to the right of the box. You will be able to choose Library, which lets you choose a photo on your computer or Camera, which lets you snap a photo using your webcam (make sure your camera is enabled).



Step 3

It may be that you want to capture a picture of an item to buy later but might forget exactly what it is, or you had a certain window up on your computer that you want to take a screenshot of and recall later. Adding a picture to reminders really helps them be even more vivid.



Set Search to Use Local Search Only

Searching using Cortana is quick and easy to use but if you're looking for a file on your computer, those web search results can get annoying. Here's the solution: turn Cortana off. This may sound counterintuitive but it can really help, and it is easily reversible if you change your mind later.

Windows has had a built-in search function for some time but like many other Windows features it's seen some changes that haven't always been an improvement. In Windows 7, the search function would prioritise results from documents found on your PC's hard drive, which made it a great way to locate documents and files that you might have mislaid, or if you couldn't remember the title of the document but could remember a snippet of the text. Since it would search all the drives attached to your PC, including cloud resources such as OneDrive and Dropbox, you could use it to locate multiple instances of the same document, or even find lines of text within documents.

In Windows 10 you'll find the search tool at the bottom left of the task bar, next to the Start button. In the default setup it will be a white circle, which indicates that Cortana is active. To begin searching simply click on that circle and type your search terms into the text box at the bottom of the panel. Unfortunately that's where the problem with the Windows 10 search function begins. By default the Cortana intelligent assistant will pre-empt your search and show you results from the Internet rather than from your own PC, and since by default Cortana uses Microsoft's own

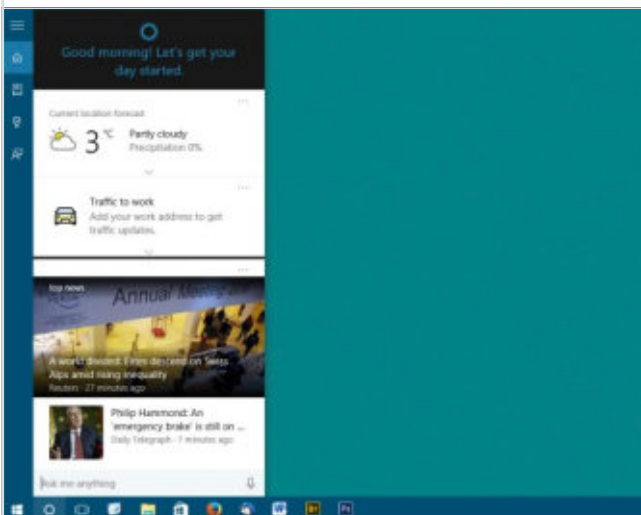
Bing search engine the results are frequently not what you're actually looking for. While this Cortana assisted search may possibly be helpful if you're searching for information rather than a locally stored file, it can get annoying if you're looking for a particular document and don't really care what Cortana or Bing have to say about it. What might be really useful would be a way to make Cortana search only for things stored on your PC but unfortunately she can be a temperamental assistant and her settings sadly don't include that option. Maybe a future update of Windows 10 will give her that functionality, but for now if you want to use local search only, I'm afraid you'll have to do it without Cortana's help.

Fortunately it's a fairly simple process to set up the Windows Search system to only look for locally stored files and equally simple to set it back to the default settings afterwards, so if you find that you can't live without Cortana's sassy tones punctuating your working day you don't have to say goodbye to her permanently. Here's how to get Cortana to take a rest for a while and let you search for your lost files in peace.

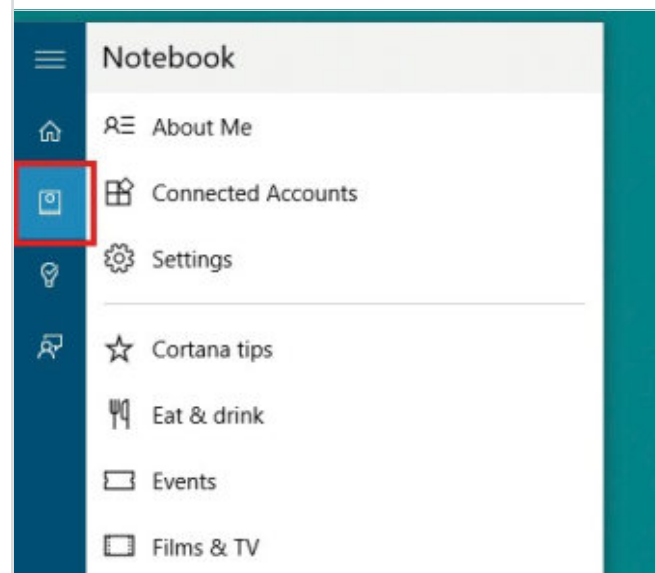
Searching Inside

Not only can restricting the search parameters help to improve the search results but it will also greatly speed up your searches. If you want to search online for something, you can still do so easily with Google.

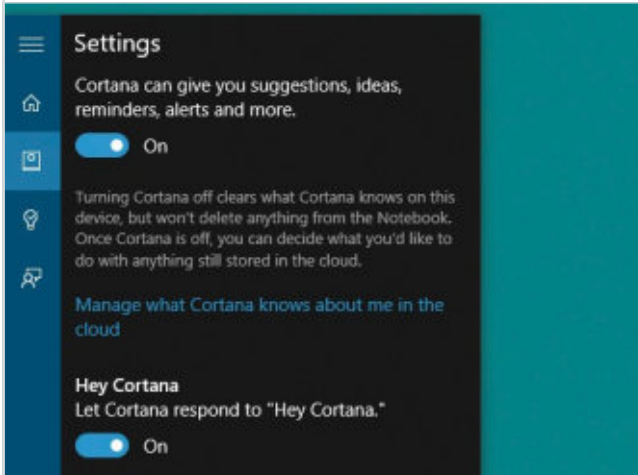
Step 1 Click on the white circle icon next to the Start button to activate Search and bring up the Cortana app panel. You'll see Cortana's usual selection of web news, calendar events and weather forecast.



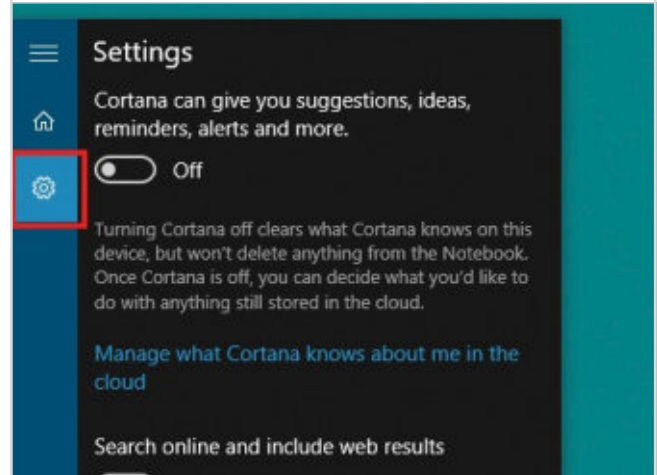
Step 2 Click on the Notebook icon in the left sidebar. It's the one that looks like a rectangular box with a circle in it.



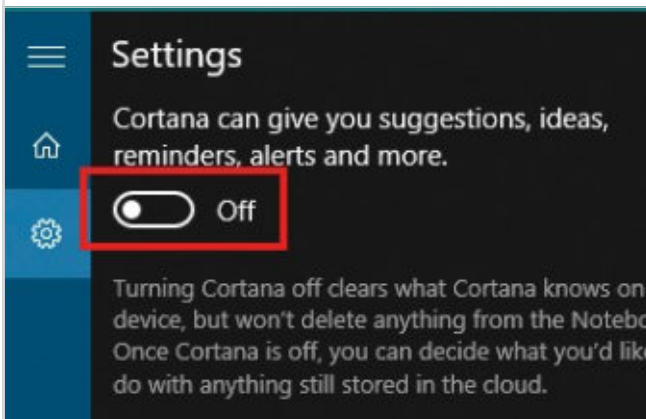
Step 3 In the Notebook panel click on Settings. You'll see the rather limited settings panel for both Cortana and the Search function.



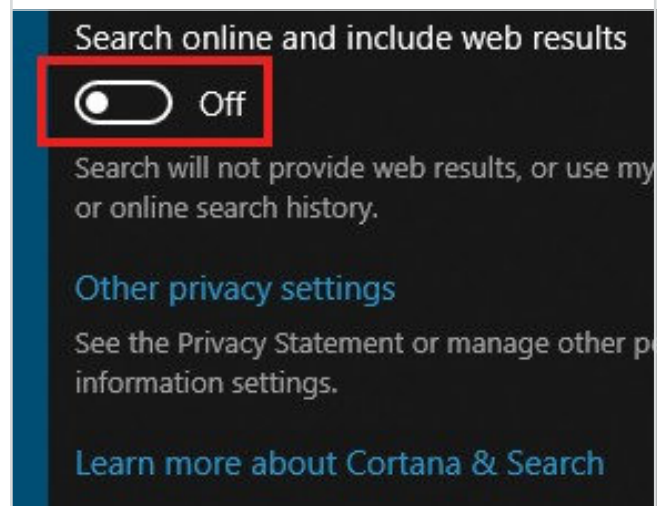
Step 6 In the sidebar of the Search panel the notebook icon has now been replaced with a cog wheel icon for settings. Click on this to open the settings panel.



Step 4 Flip the switch at the top of the panel labelled "Cortana can give you suggestions..." to off. This temporarily disables Cortana and clears what she's learned on your computer, although things she's stashed on the cloud will remain there.



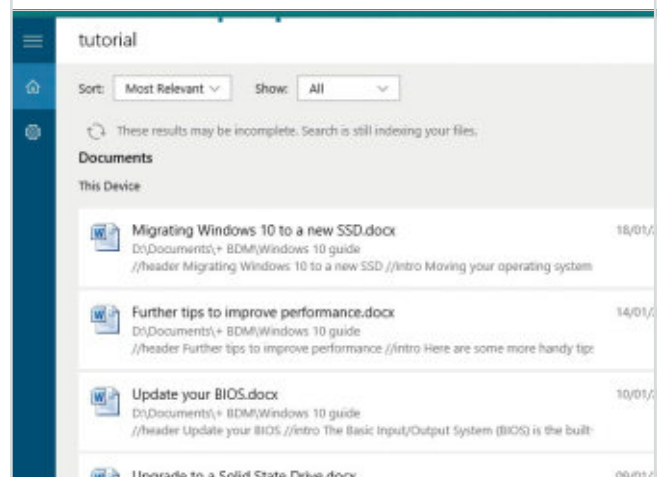
Step 7 Flip the switch labelled "Search online and include web results" to off.



Step 5 The Cortana panel will close as soon as you flip the switch and the circle icon in the Task Bar will be replaced with the more traditional magnifying glass of the Search function. Click on this now.



Step 8 Now when you use Search you'll have to type in what you're looking for but it will only search for files and apps on your local hard drive rather than using Bing.



Make Cortana Use Firefox and Google

By default the Cortana intelligent assistant will use Microsoft's own Bing search engine to find search results on the Internet. This is fine if you use Edge but if you use Firefox or Chrome as your main browser, you may find it easier to make Cortana use their search engines instead.

One has to feel slightly sorry for Internet Explorer. Despite being the world's most popular web browser for many years, it has always had a terrible reputation for being slow, unreliable, prone to virus infestation and riddled with more security leaks than a John Le Carré novel. Many Windows users routinely scrapped it in favour of third-party browsers such as Google Chrome or the popular Mozilla Firefox.

Bowing to popular pressure, Microsoft has finally sidelined the much reviled Internet Explorer and replaced it in Windows 10 with a brand new web browser called Edge. It is unquestionably a massive improvement over its predecessor, featuring all the latest must have features such as multiple tabbed browsing, sandboxed tabs, better security and privacy controls and much faster page loading. Unfortunately old prejudices are slow to fade and a great many people still prefer the free and extremely popular Mozilla Firefox, mostly due to its speed, versatility, security and superior privacy controls.

Similarly Microsoft's proprietary search engine Bing is a pretty good way to find stuff on the Internet but the search results can

sometimes be inaccurate or not entirely relevant and you may not find what you're looking for on the first try. There's a reason why Google is the world's most popular search engine. It's faster, produces more accurate and relevant results and people are simply familiar with it and don't like being forced to change.

Unfortunately the Cortana intelligent assistant included with Windows 10 is a loyal acolyte of Bill Gates; she'll even claim he's her father if you ask her, which raises some worrying questions about his private life! It's no surprise therefore that when you ask Cortana a question that involves searching the Internet for information, by default she'll open up an Edge browser window and show you search results provided by Bing in order to answer your query. If you're used to browsing in Firefox and searching with Google it can be jarring and annoying to suddenly be presented with an unfamiliar environment, especially if the results aren't what you were actually searching for. Most people would prefer to have their search results presented in a familiar environment and provided by a search engine that they know and trust.

Change Search Engines

With a few simple tweaks you can get Cortana to use Firefox as her default web browser and use the Google search engine instead of the Microsoft approved alternatives. This is how it's done.

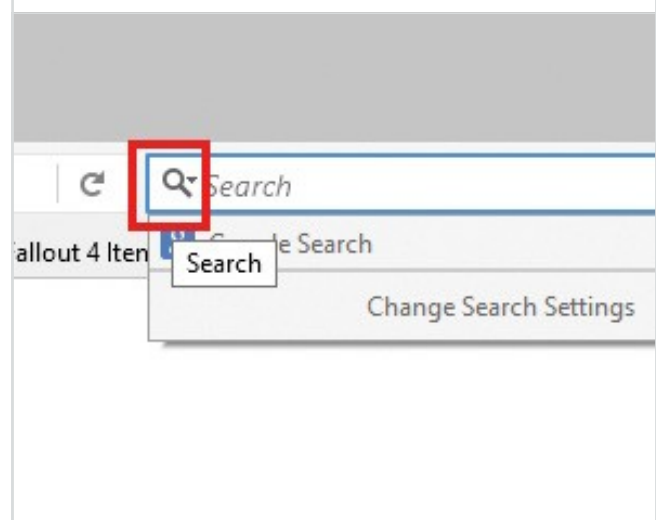
Step 1

If you're not already using Firefox as your default web browser, visit www.mozilla.org, download and install it.

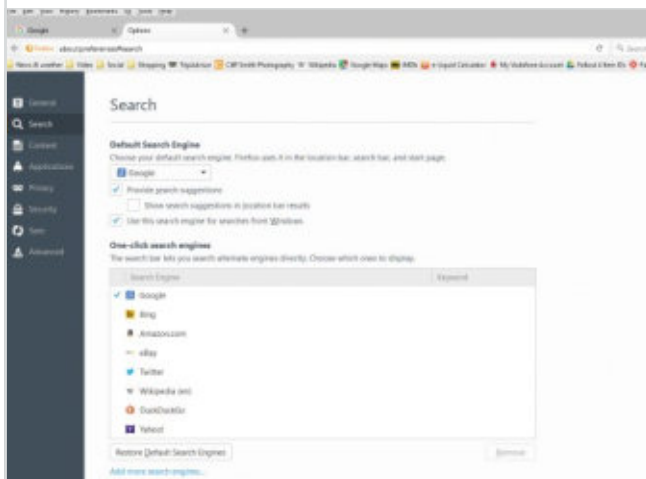


Step 2

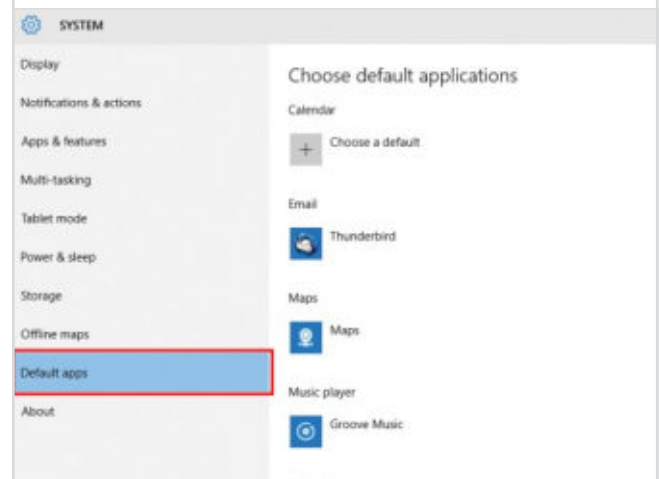
Open Firefox and look at the main tool bar at the top of the screen. To the right of the address bar you'll see a smaller window containing a magnifying glass icon and the word "Search". Click on the icon.



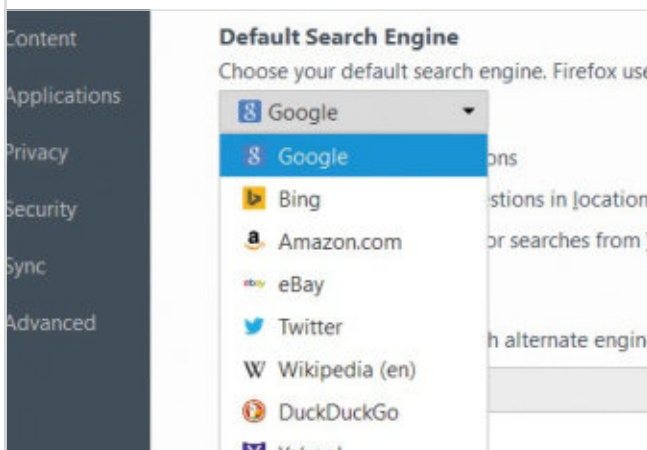
Step 3 In the drop-down menu, click on the link at the bottom, "Change search settings". This opens a new tab and takes you to a Firefox settings page.



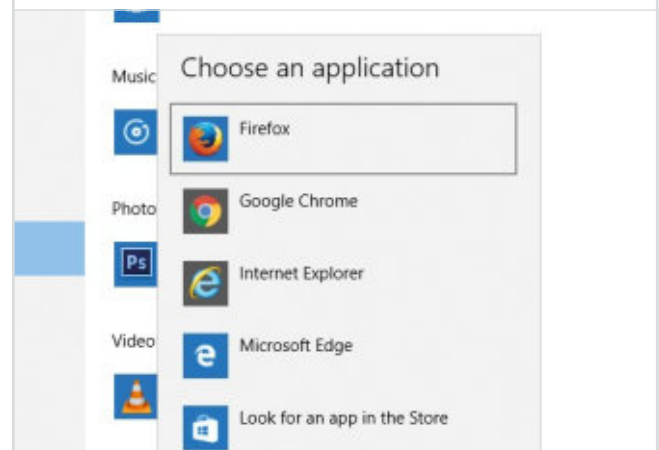
Step 6 In the sidebar menu on the left, click on the link for Default Apps. This is where you can select what apps Windows uses for particular tasks.



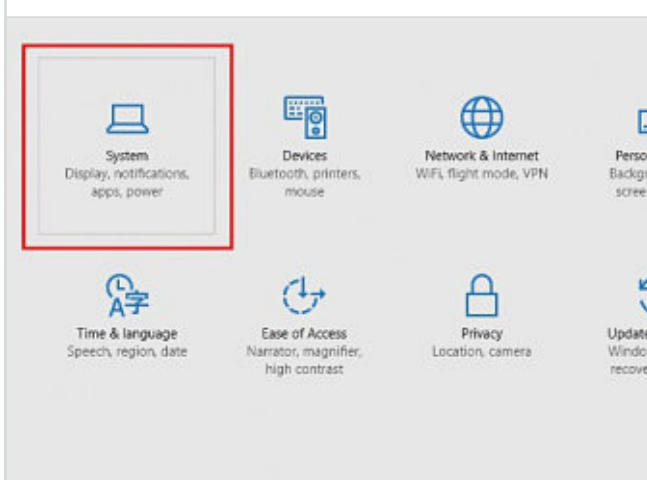
Step 4 Under "Default search engine", click to bring up the drop-down menu and select Google from the list of alternatives. Also check the box labelled "Use this search engine from Windows".



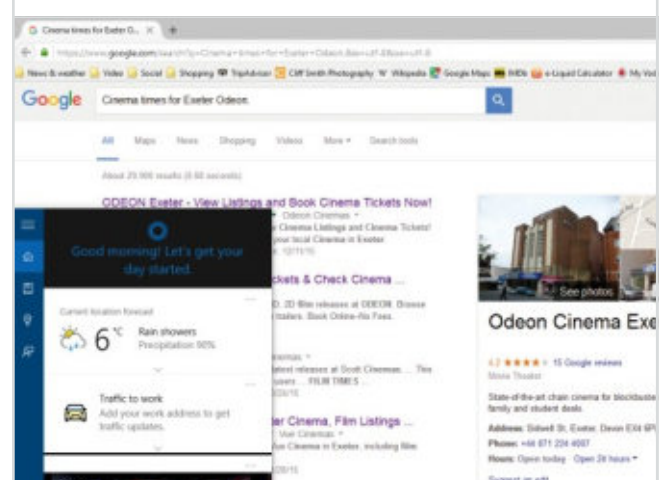
Step 7 Towards the bottom of the screen you'll see an entry for Web Browser. Click on it, and you'll see a list of your available web browser apps. Click on Firefox to set it as the default.



Step 5 Next we need to make Firefox the default web browser. Click on the Start button, open the Settings menu and click on System.



Step 8 Now when you use Cortana she'll automatically use Google to search and if she wants to open a browser to display the results she'll open Firefox to do it.



Set Up Cortana Voice Search

Cortana will provide some services straight after you initially set up your Windows 10 computer. If, however, you want to take full advantage of everything she has to offer, you will need to do a bit of additional tinkering. Cortana can be a powerful tool, so why not make the best use of her.

If you've seen the 2013 science fiction movie *Her*, in which Scarlett Johansson provides the seductive voice and personality of Joaquin Phoenix's amazing artificially intelligent operating system, you'll have a pretty clear idea of the way that computer interaction is going. While we may be some years, or more likely decades, away from the advanced AI depicted in that film, we already have artificial intelligence (AI) systems that can learn from you, reliably recognise your speech patterns and respond to your questions with appropriate spoken replies that sound human. As a Windows 10 user you already have an AI personality at your disposal in the form of Cortana, the Windows Intelligent Personal Assistant.

Intelligent Personal Assistants are very much the wave of the future and are becoming more powerful all the time. The best known is probably Siri, the digital voice of Apple's iPhone but there are plenty of other examples, including Google Now on Android devices, Blackberry's Assistant, Samsung's S Voice and the open source Mycroft app. Naturally Microsoft had to have one of its own and so Windows 10 features Cortana, an Intelligent Personal Assistant that can help you to search for

files or apps on your system, as well as finding information on the Internet.

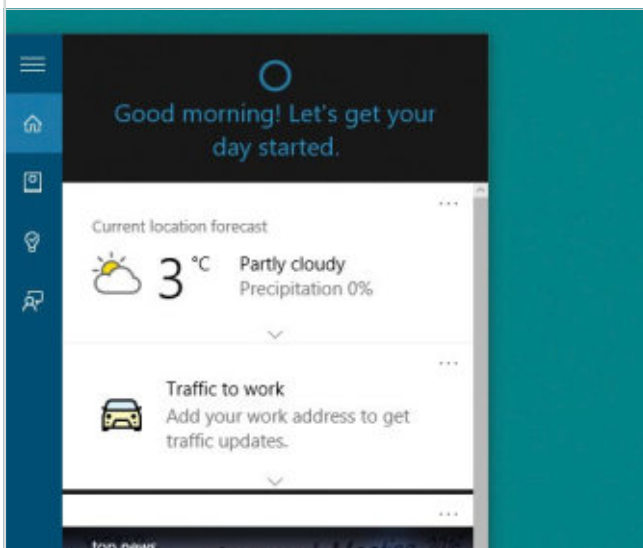
Cortana takes her name from the Artificial Intelligence character in the popular Halo combat game series, made by Bungie Inc., that has been a massive hit on the Xbox games console, and she is even voiced by Jen Taylor, the same actress who provides the voice of Cortana in the game. If you have a microphone attached to your system, you can ask Cortana questions in a normal speaking voice and she will attempt to find the answer for you. She will reply to your queries in a pleasant mid Atlantic voice that seems to have real personality behind it and while a love affair is probably asking a bit much she does make for an entertaining companion.

The more you use Cortana, the better she becomes at understanding your speech and the more she learns about you and your personal preferences; this includes your web browsing history and personal calendar and contacts, which are uploaded into cloud storage. This has led some people to object, citing worrying issues about privacy and personal data security.

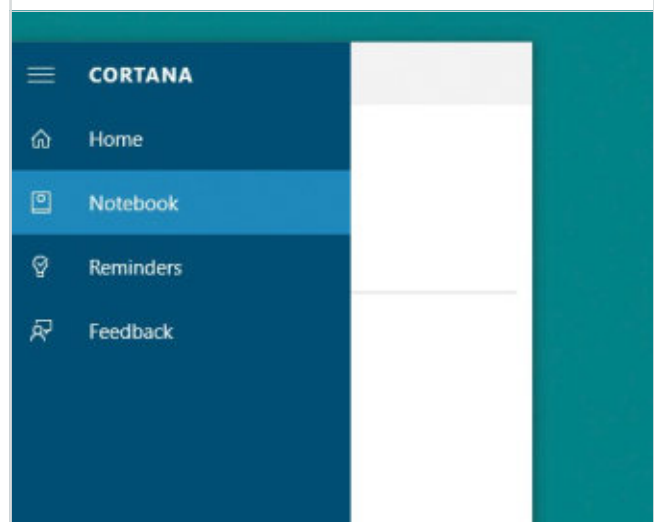
Talk to Cortana

There are some concerns about Microsoft listening to you all the time but if you're happy to have Cortana hanging on your every word, this is how to set up voice searching on your PC.

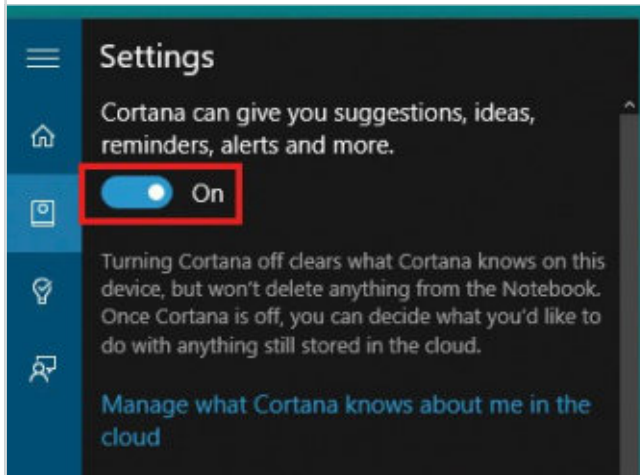
- Step 1** Next to the Start button on the left of the Task Bar you'll see an icon of a white circle. Click on this to open the Cortana search app.



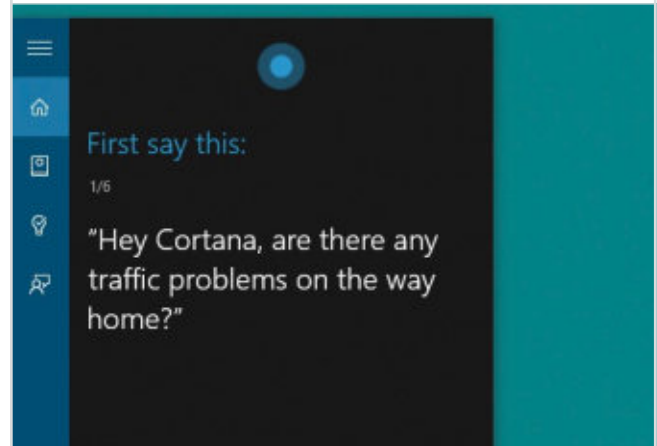
- Step 2** On the left side of the app's panel you'll see a row of oddly shaped icons. If you click on the three lines at the top left corner the sidebar will open revealing that they represent Home, Notebook, Reminders and Feedback. Click on Notebook.



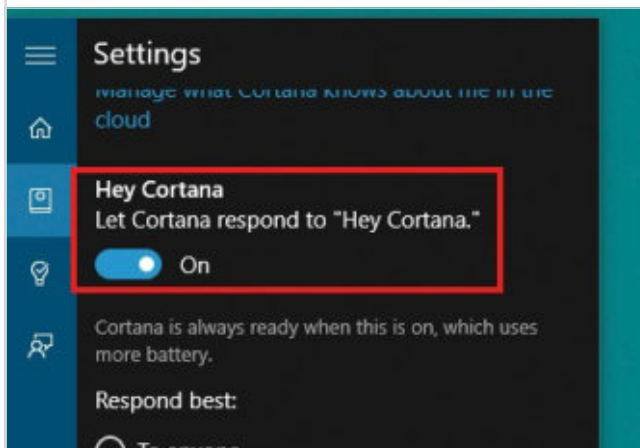
Step 3 To set up voice search, click on Settings. If Cortana is currently turned off, toggle the topmost switch to turn her back on.



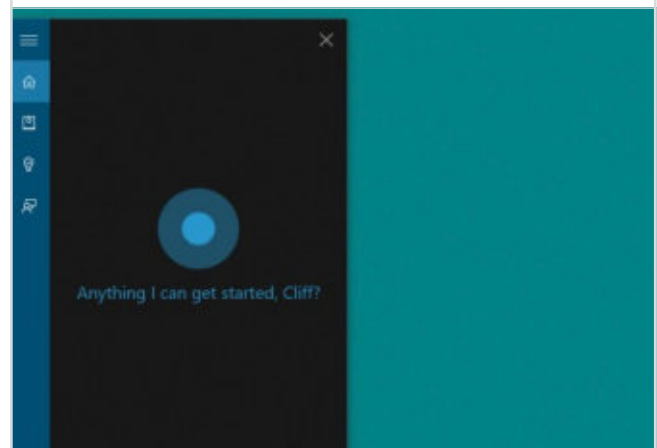
Step 6 Cortana will now ask you to say six phrases, which contain common words used in searches. Make sure there's no background noise and speak clearly into your microphone using your normal speaking voice.



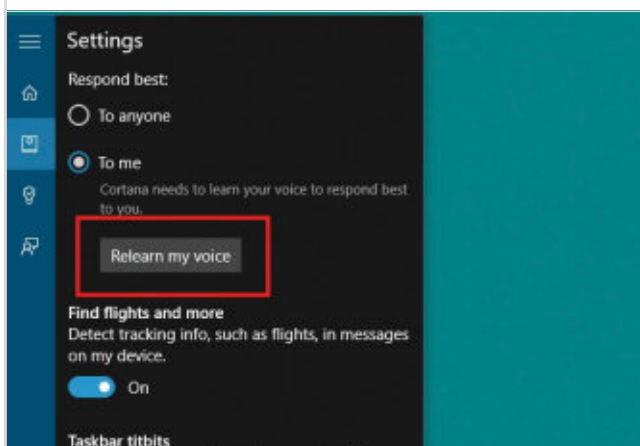
Step 4 To set up voice search, scroll down a little and flip the switch labelled 'Hey Cortana'. This sets Cortana to continually listen for your voice and respond when you say 'Hey Cortana' into your microphone.



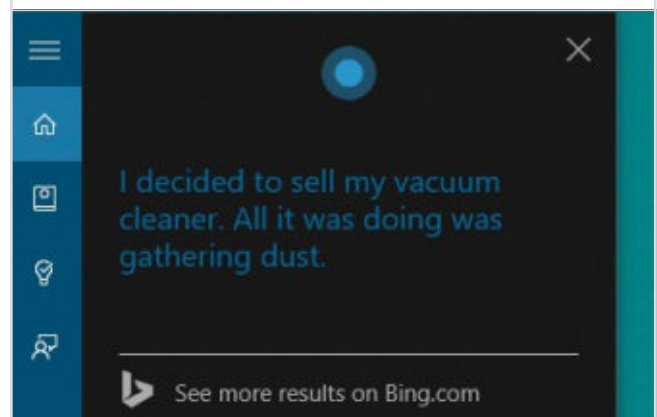
Step 7 Once you've let Cortana listen to you she should be able to understand simple questions and provide useful answers. The more that you use her, the better she should get at recognising your voice.



Step 5 In order to respond accurately to your voice, Cortana will first have to learn to recognise how you say certain words. Scroll down a little further and you'll see a button labelled 'Learn my voice'. Click on this.



Step 8 Try Cortana on a few simple questions, such as 'What is tomorrow's weather forecast?' For more amusing answers try 'How intelligent are you?', 'How did you get your name?' or even 'Who is Siri?' Just don't ask her to tell you a joke, they're all pretty terrible!

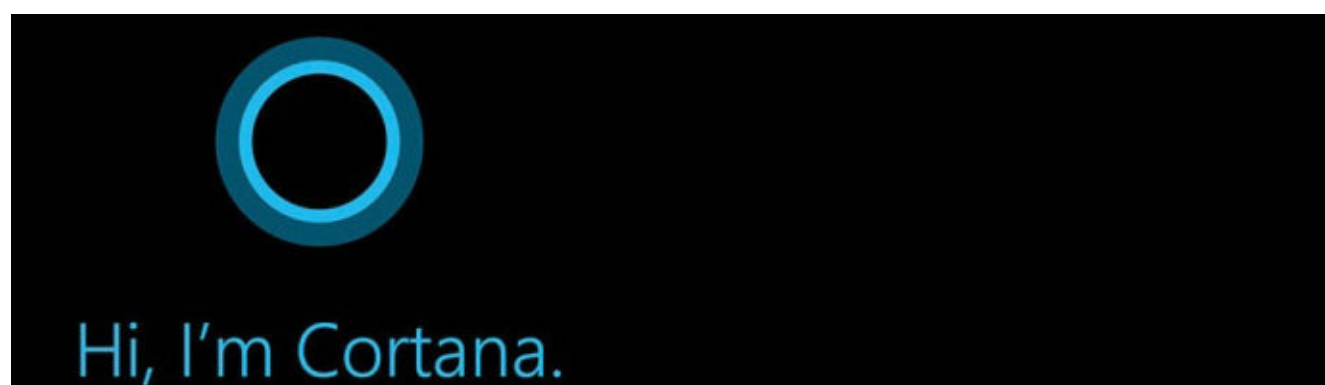


Disable the Cortana Assistant

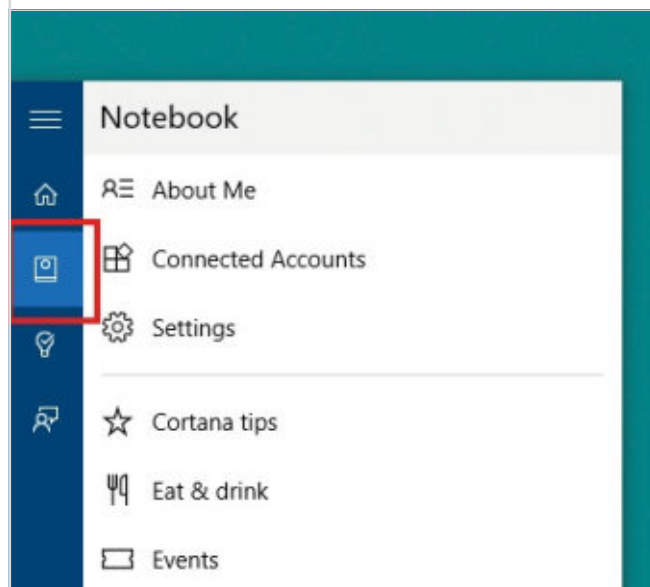
The privacy of your personal information is a major issue, so if you're not happy with the idea of Cortana constantly monitoring your everyday activities, this is how to put a stop to it. Be aware that some of these tips will reduce the number of ways you can use Cortana with Windows 10.

Cortana is one of the flagship features of Windows 10 and can certainly be a useful assistant, helping you with Internet searches, finding routes, setting reminders and even telling terrible jokes. However she does store a lot of information about you both on your local PC and more importantly on the cloud and some of that data is shared with Microsoft for data analysis purposes. Among the personal information stored is your Internet search history and locations that you've saved and obviously that's a cause for concern. Given the recent history of data security breaches at major companies, including a data leak from Microsoft's own cloud services, a lot of people are

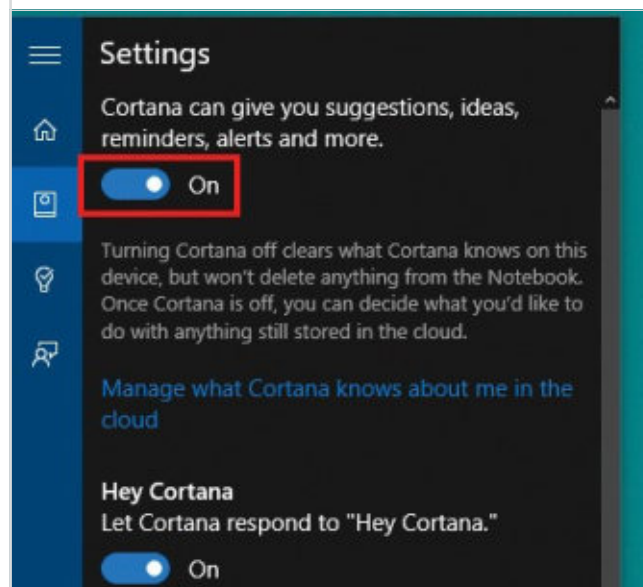
wary of the way that Cortana collects, stores and shares information, citing very justifiable concerns about privacy and the security of their personal data. If you're not happy to share your life with Cortana and don't want her listening to your every word, by far the easiest way to opt out is to never activate Cortana in the first place, by clicking on the "Not interested" button during the Windows 10 installation process. However if you've installed Cortana and have interacted with her, you can still shut her down and delete the stored online information that she's collected about you. Here's how you do that:



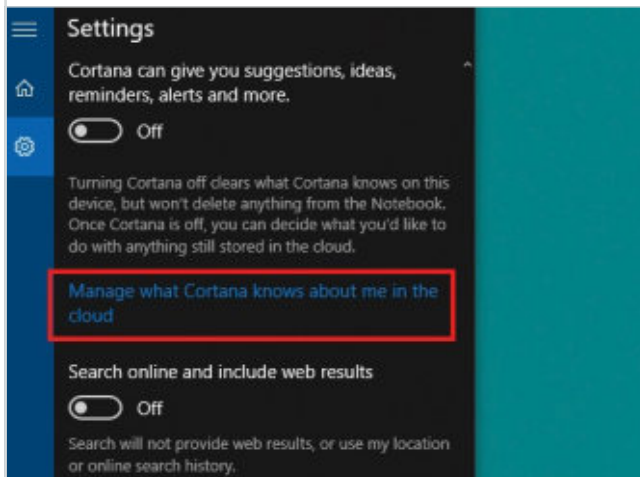
Step 1 Open Cortana by clicking on the Task Bar icon and then click on the notebook icon in the left-hand sidebar of the Cortana screen.



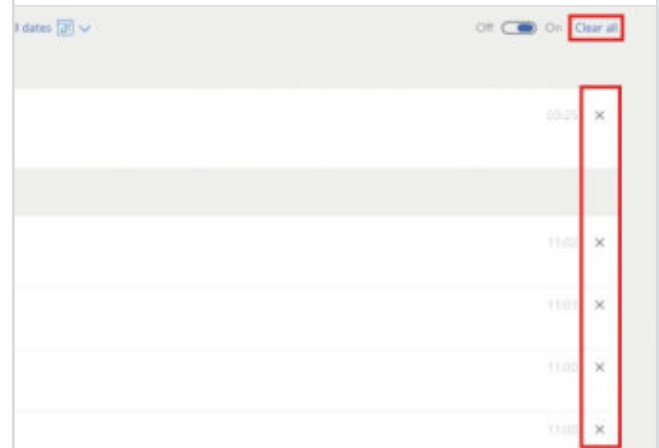
Step 2 On the Settings screen, under the heading "Cortana can give you suggestions, ideas, reminders, alerts and more", flip the slider switch to turn Cortana off.



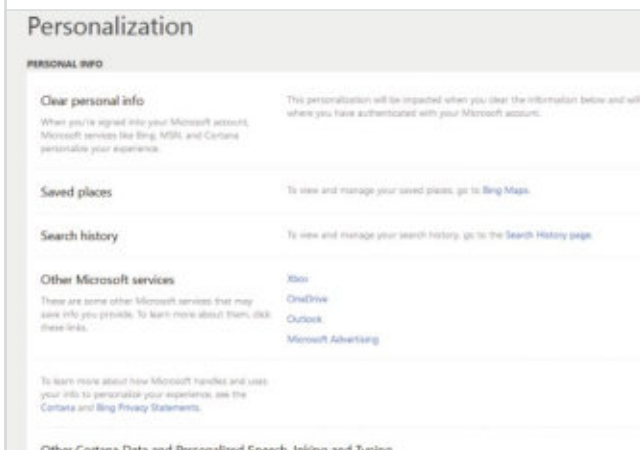
Step 3 To delete everything Cortana has learned about you, click on the link “Manage what Cortana knows about me in the cloud”.



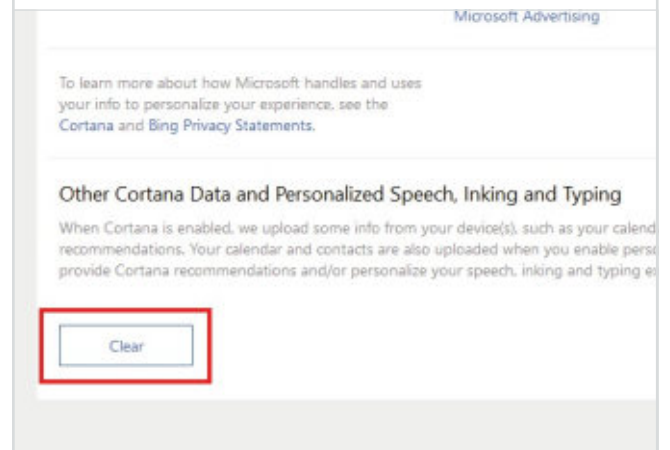
Step 6 Here you'll see all the questions that you've asked Cortana. You can delete individual entries by clicking the X next to each one or delete everything by clicking on the Clear All link in the upper right of the page.



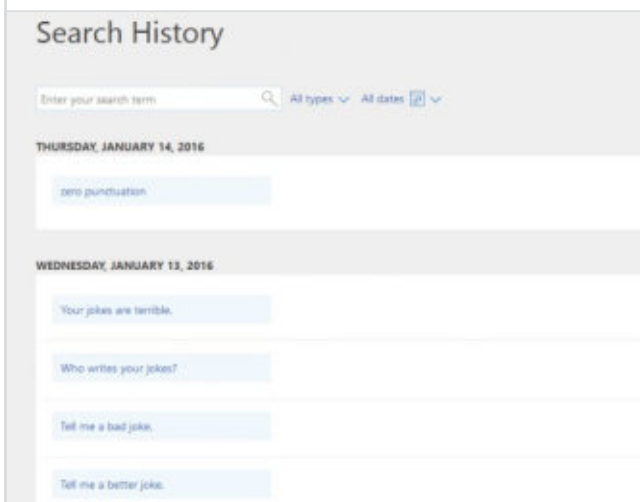
Step 4 Your default web browser will open and display the Bing Personalisation settings page. Here you'll find links to your saved places and more importantly your internet search history, which stores all the questions you've put to Cortana.



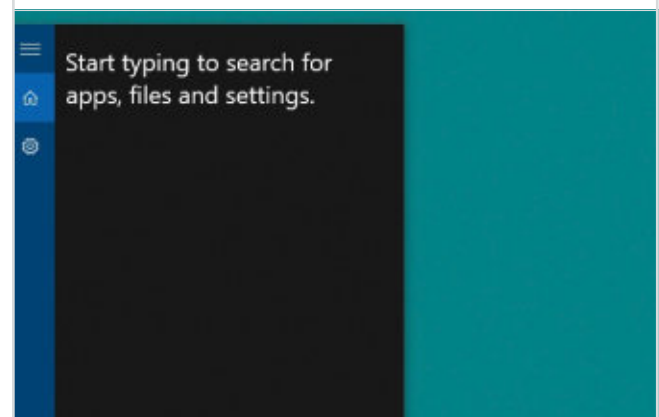
Step 7 Go back to the main settings page and scroll down to the bottom, where you'll find a button labelled Clear. This will delete all the information that Cortana has saved about you. Click it and then confirm your choice on the pop-up window.



Step 5 Under the Search History category, click on the link to go to your Search History page.



Step 8 That's it, you've now disabled Cortana and your personal information is a bit more secure. You can still use the built-in Windows Search function but Cortana will no longer be listening. If you miss her and want her back, you can re-activate her at any time.



Managing Your Notifications

If you've used a modern smartphone, you'll be all too familiar with Notifications, those urgent little messages that tell you something has just happened. Windows 10 seems to have embraced notifications in a much bigger way than older versions. This is how to manage those popups.

It's a feature of modern life in the digital age that we don't have to remember things anymore. Just a decade or so ago we used to have to remember dozens of phone numbers but with mobile phones now storing all our contacts we're lucky if we can remember our own number. We used to have to remember facts but today we have Wikipedia constantly at our fingertips. We used to have to remember appointments and tie a knot in a hanky to remember to buy a pint of milk but these days we have Notifications to remind us of everything. These changes in the ways that we find and use knowledge is actually changing the ways that our brains work; as we rely more on machines to store and recall everyday information, our memories are becoming less efficient, although our critical faculties may be improving to help us weed out false information. Whether this is a good thing or not, only time will tell.

Notifications have become an everyday fact of life for anyone who uses a smartphone, tablet or personal computer. All through the day you'll hear that insistent little "ping" that lets

you know that you've received an email, or one of your friends has posted another cat picture on Facebook and that you've only got 15 minutes to get to the dentist. While they can certainly be useful for anyone trying to juggle a job, family and busy social life, if you don't manage your notifications you'll never get a moment's peace. The same is true of Windows Notifications; if you don't set them up properly you'll be constantly notified about things that you just don't need to know about.

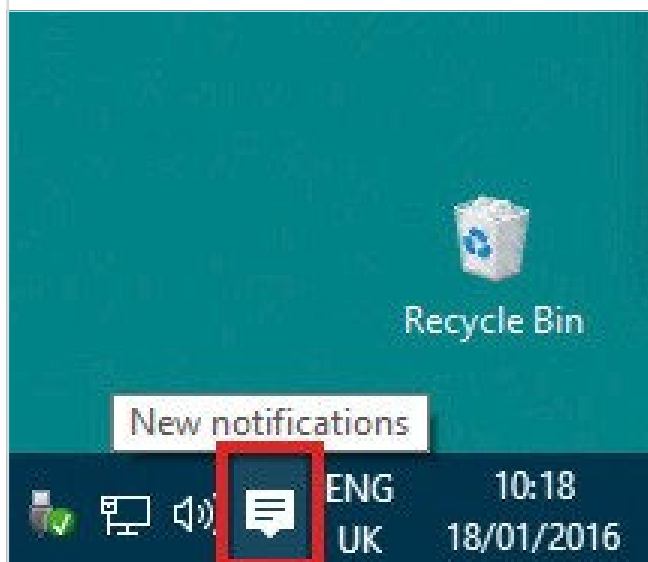
First introduced with Windows 8, Notifications are the messages that pop up in the bottom right-hand corner of your screen, reminding you of calendar events, letting you know that you've got emails and generally keeping you informed about what's going on with your life and your computer. There's no doubt that Notifications are useful, especially when they remind you of a forgotten appointment or signal the arrival of an important email. However if you don't take a firm hand with them you can be overwhelmed with pop-up messages about trivial Twitter posts or friends' Facebook status updates.

Notification Settings

In Windows 10 you can choose what sort of Notifications you receive and even decide which apps can post Notifications and what type of Notifications each app can use. Read on to find out how you can manage your notifications.

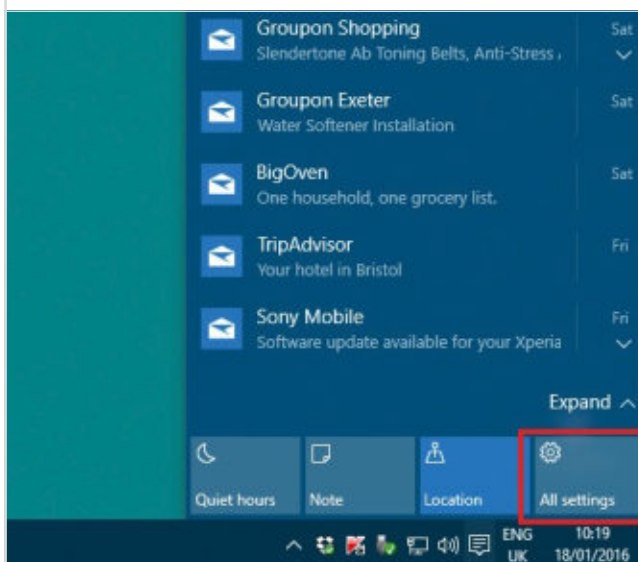
Step 1

To view your recent Notifications, click on the Action Centre icon in the System Tray area of the Task Bar, at the bottom right of the screen. It's the one that looks like a rectangular speech bubble.

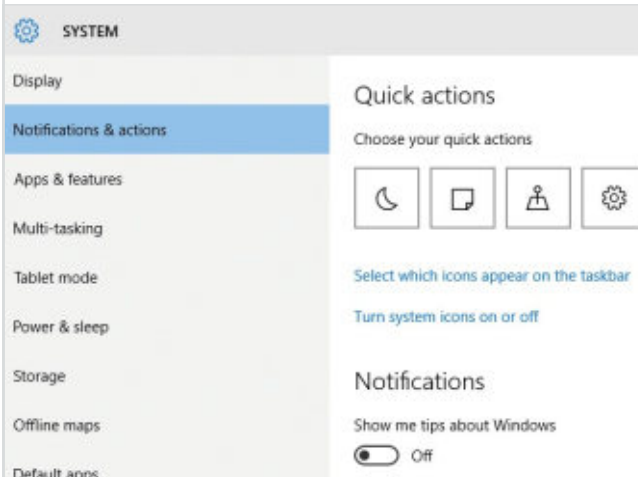


Step 2

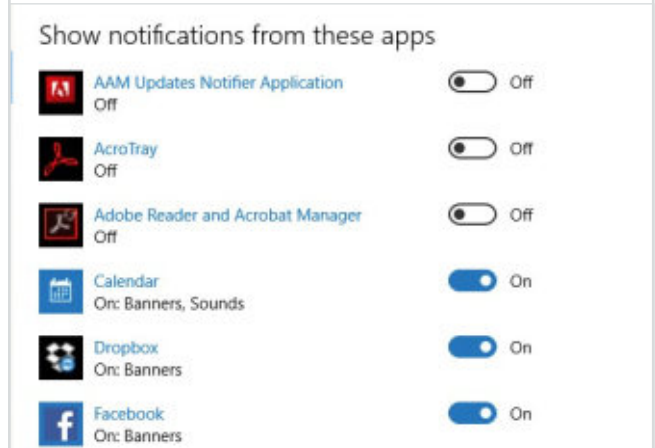
The Action Centre sidebar will open, showing all your recent Notifications, as well as a panel of buttons at the bottom of the screen. Click on All Settings to open the Settings screen.



Step 3 On the Settings screen, click on System and then in the sidebar menu on the left of the System screen, click on Notifications & Actions.



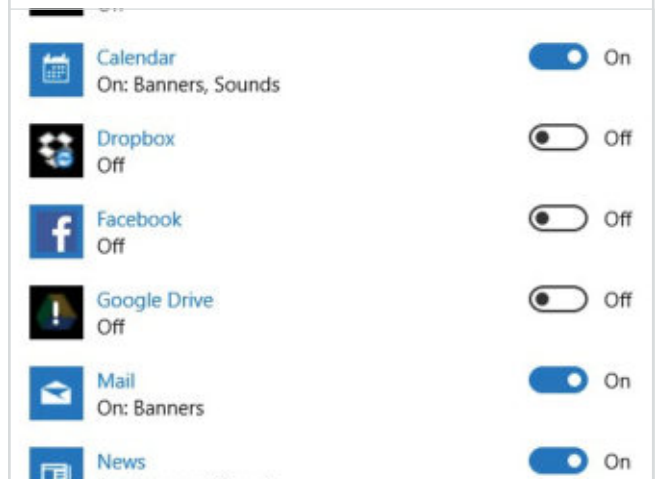
Step 6 Scroll down further and you'll find a list of installed apps that can send Notifications, each one with a switch. To disable Notifications from individual apps, flip that app's switch to off.



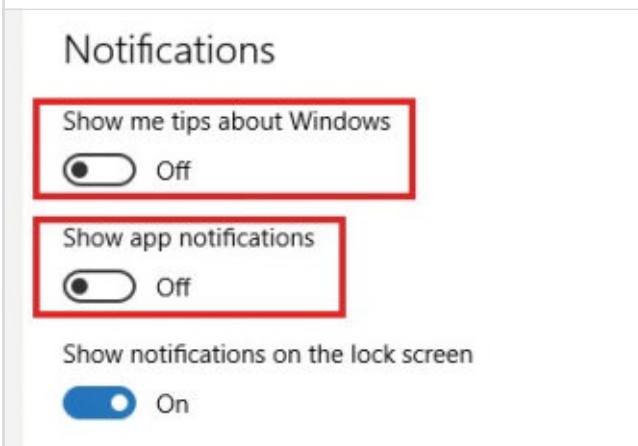
Step 4 Under the Notifications header you'll see a row of five switches controlling general Notifications options. By default they're all set to on except "Hide notifications while presenting".



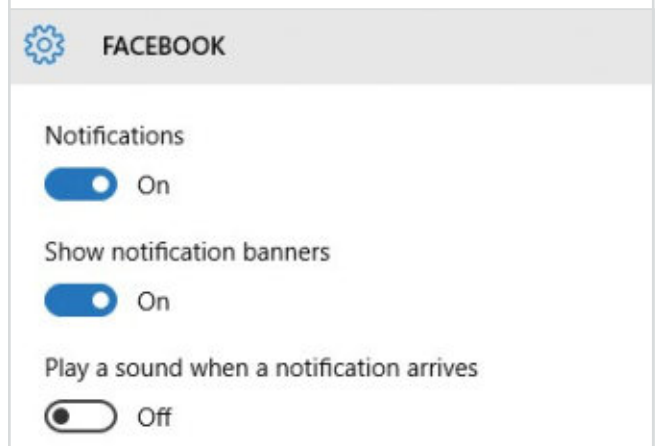
Step 7 If you just want to see important Notifications, try setting everything except Mail, Calendar, News and Windows Explorer to off.



Step 5 If you don't want any of your installed apps to be able to send you Notifications, set the switch for "Show app notifications" to off. You can also turn off "Show me tips about Windows".



Step 8 If you click on the list entry for a particular app you see further options, allowing you to turn off Notifications for that app, just turn off the on screen banner notifications and also toggle whether the notification plays a sound.



Set Up the Quick Actions Panel

Although it can also be used on a standard PC, if you're using Windows 10 on a device with a touchscreen, you'll find that the Quick Actions panel is a particularly useful additional feature. It makes your Windows 10 touchscreen device feel much more like a smartphone or tablet.

The Quick Actions panel is one of the many hidden little features of Windows 10 that would probably get a lot more use if only more people knew about it. You'll find it at the bottom of the Notifications & Actions panel, which you can open by clicking the icon that looks like a rectangular speech bubble in your system tray, in the bottom right corner of your desktop screen. Alternatively you can open the Notifications & Actions panel using a keyboard shortcut, Windows key + A.

At the bottom of the panel you'll see a row of four buttons. Depending on whether you're using a laptop, a tablet or a desktop PC, these buttons may include wireless connection, battery saver mode, screen brightness, airplane mode, notes, quiet hours or tablet mode, the settings menu, as well as several other options. As the name suggests these Quick Action buttons provide instant access to these features and once you start using regularly them you'll find they're actually a very useful feature.

If you're using a desktop machine you'll probably be thinking that this is just another way of accessing things you can already find easily by using the Settings menu or control panel, and

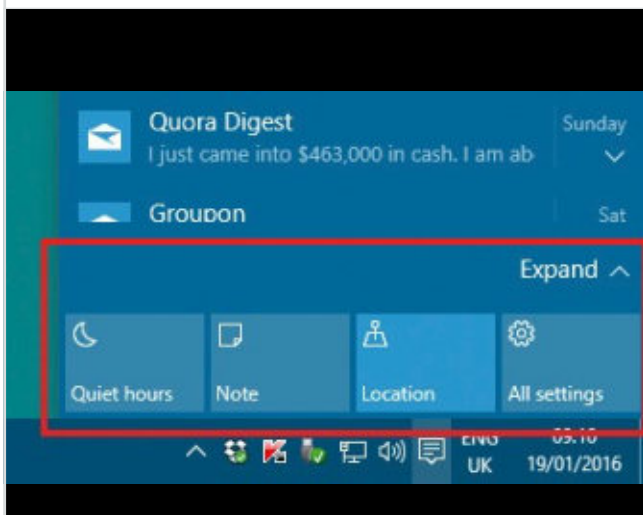
you'd be correct but the format is a lot more accessible if you're using a tablet or a laptop with a touchscreen. On touch enabled systems you can access the Notifications & Actions panel by simply swiping in from the right-hand edge of the screen and the Quick Actions buttons are ideally sized to be easy to hit with a finger. If you're a tablet user, once you get used to using them you'll wonder how you ever managed without them. You can use them to quickly access settings, Wi-Fi connections, set up your locations options, jot down quick notes, set up Quiet Hours times and even log on to your company's VPN if you have one. For touchscreen users, especially in a professional environment, there's no doubt that Quick Actions are a potentially useful feature.

The most useful part about it is that you can configure which buttons appear in the top row of the Quick Actions panel and in which order they appear, yet another way that Windows 10 lets you set things up your way. If you think this might be something that you'd use more often, if only it was set up correctly, we'll show you how to configure the Quick Actions buttons to streamline your Windows experience.

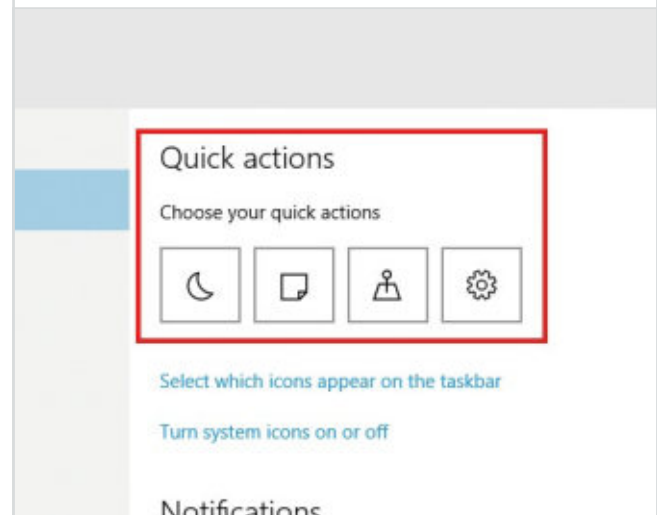
Quick Actions Panel

The Quick Actions Panel is one of those tools that you will begin to use more and more over time; and the more you use it, the more you will realise how useful it really is. Let's take a look at getting it set up correctly.

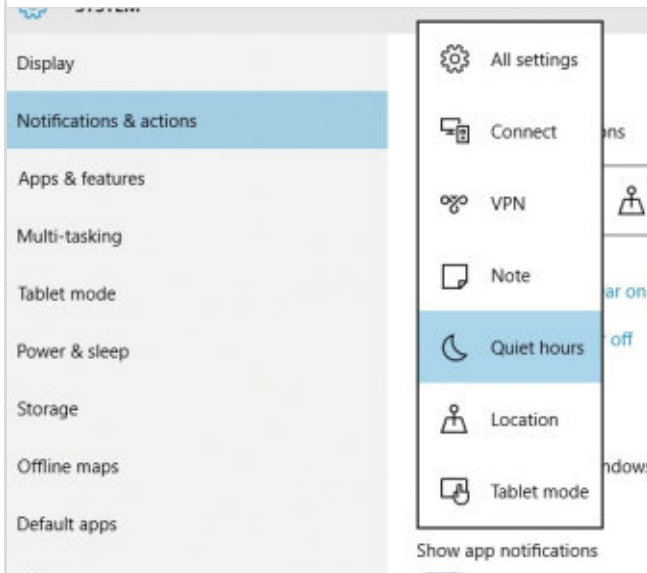
Step 1 Press Windows + A, or click on the Notifications icon in the system tray to open the Notifications & Actions panel. You'll see a row of four Quick Actions buttons at the bottom. If you click on the Expand link, you'll see several more.



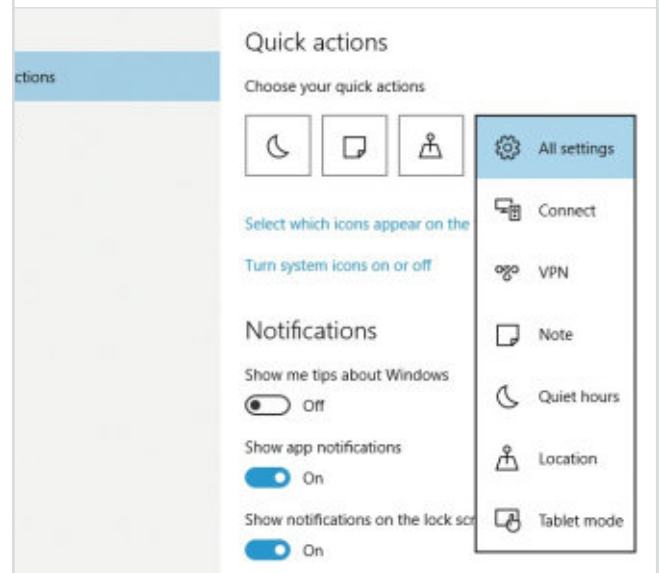
Step 2 Click on the Start button and open the Settings menu. Click on System and then select Notifications & Actions. At the top of the page you'll see a row of four icons. These are the four actions that appear in the top row of the Quick Actions panel.



Step 3 Click on the first icon and you'll see a pop-up menu with the list of available Quick Action icons. Desktop users with LAN connections will only see six or seven, laptop and tablet users will see up to a dozen.



Step 4 Choose the first quick action from the list, then move on to the second, third and fourth. The remaining icons will be relegated to the lower rows of the Quick Actions panel, invisible in collapsed mode.



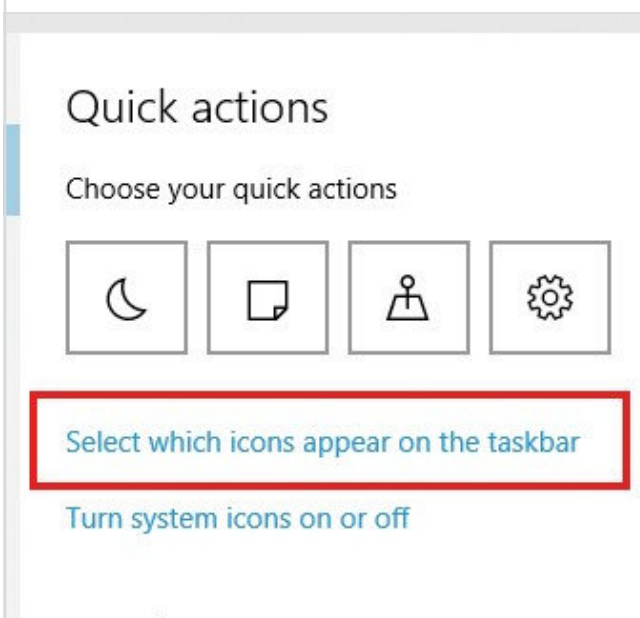
Select Your System Tray Icons

Whilst we have this settings page open, we can quickly take a look at the system tray taskbar icons option. As the name suggests, here you can choose the icons that are shown in the Windows 10 taskbar.

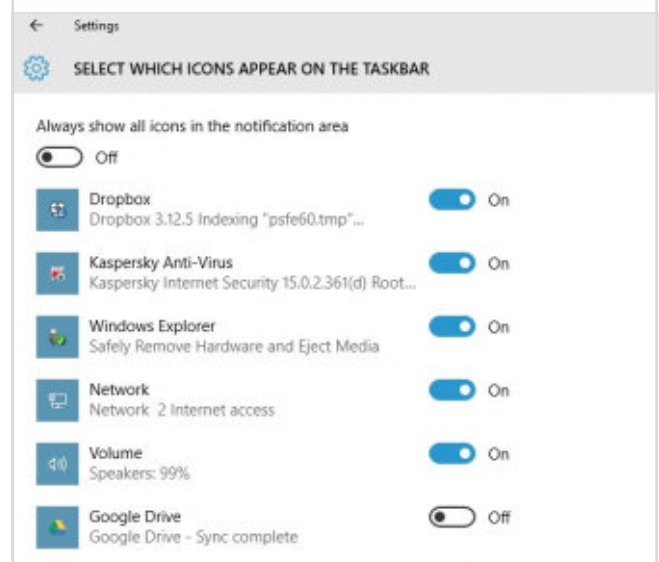
The System Tray is an area on the right-hand end of the task bar, in the bottom right of your computer screen. It has been part of the Windows desktop interface since Windows 95 and makes a welcome return in Windows 10. It is an often overlooked area and many users won't even know it's there, since by default it only displays the system clock, your connection status, the volume control and the Notifications & Actions panel icon. However it can be

used to display a lot of useful extra system information, such as the status of your anti-virus software, USB quick eject options, links to cloud storage, graphics card and audio equipment drivers, location information, keyboard input and language options, email notifications and more; depending on what apps you have installed. Let's take a look at this often neglected area and show you how to get more out of it.

Step 1 Click on the link "Select which icons appear on the taskbar". It will show you a list of the apps that can present System Tray icons for quick access.



Step 2 Go through the list, and select which ones you'd like to see appearing in the bottom right of your Task Bar. We'd suggest that safely remove hardware, your anti-virus app and your cloud storage service are all useful, as well as the default network connection and volume icons.



Touchpad Gestures and Hotkeys

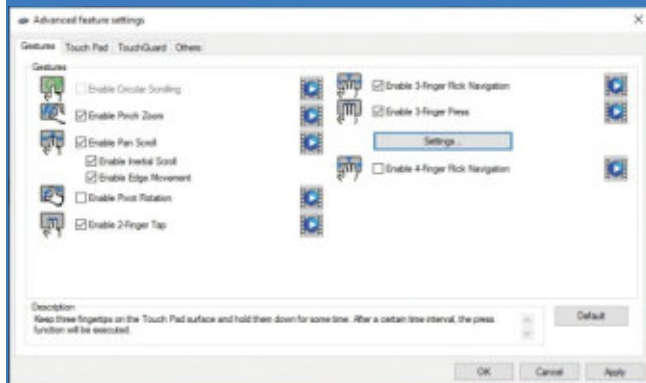
Even if you are used to controlling your laptop with the touchpad, it can be some time before it feels as familiar as using a traditional mouse. Luckily Windows 10 allows for several very useful touchpad gestures that, when combined with hotkeys, make using a laptop much easier.

Using the Touchpad

Depending on the device that you are using, and whether all of the gestures have been enabled, you might not have access to all of these gestures. Some might also need to be configured before use.

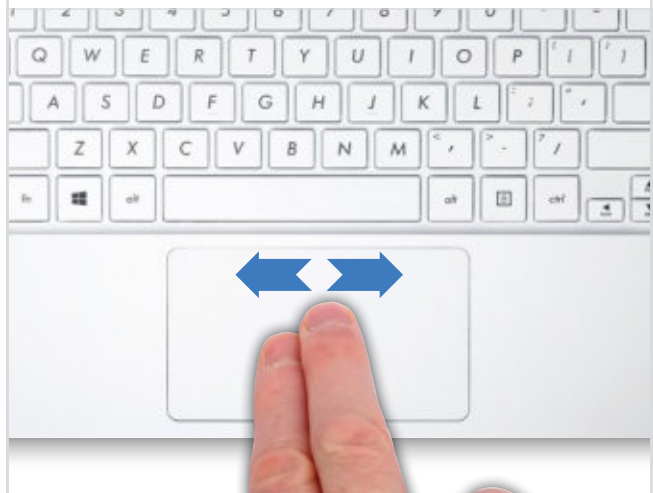
TOUCHPAD SETTINGS

Windows 10 contains some basic touchpad settings when used on a laptop but you may also need to get into the hardware settings for your particular laptop. You can usually find this in the taskbar menu. If not, use the universal search to find “Touch Pad Settings” and click on “Additional Settings”.



Horizontal Scroll

Place two fingers on the touchpad and slide horizontally. This gesture will work in any app that allows horizontal scrolling, such as the Internet browser.



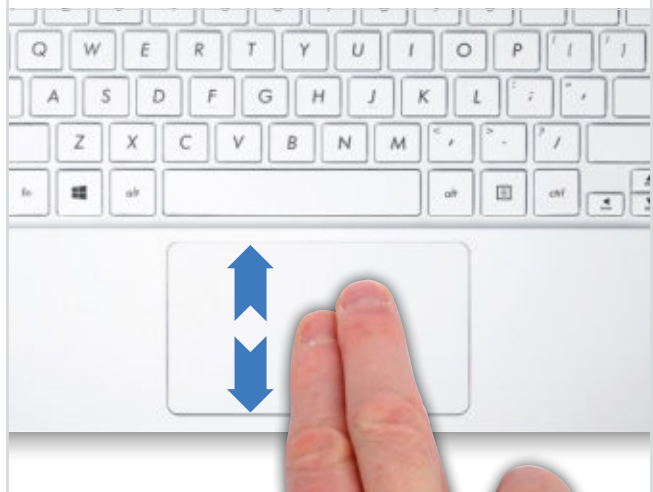
Select Item

Tap the touchpad with one finger when over the item you want to select. You can also tap twice to select items that need a double-click.



Vertical Scroll

Place two fingers on the touchpad and slide vertically. This gesture is useful for scrolling down through web pages or when reading long text documents such as Word docs.



Zoom In

Place two fingers on the touchpad and pinch in diagonally. This gesture will be familiar to anyone who uses a smartphone or tablet. Can be used in several core apps, including Photos.



Task View

Place three fingers on the touchpad and swipe them away from you. This is one of the new gestures that may not work on your device if it does not have a precision touchpad.



Zoom Out

Place two fingers on the touchpad and spread out diagonally. When you change zoom in a browser, a pop-up will usually appear as you zoom, showing you the change from the default 100%.



Show Desktop

Place three fingers on the touchpad and swipe them towards yourself. Again, this requires a precision touchpad to work. This can also be achieved by pressing Windows Key + D.



Context Menu

Tap the touchpad with two fingers or press in the bottom right corner. This gesture results in the same as right-clicking with a traditional mouse, usually opening a contextual menu.



Switch Windows

Place three fingers on the touchpad and swipe right or left. Requires precision touchpad. You can also switch between open windows easily by holding Alt and tapping Tab.



Windows 10 Hotkeys

Many users know basic Hotkey combinations, such as Ctrl + C and Alt + Tab but there are literally hundreds more to learn. These let you do everything from Snap windows left or right, to switching between Virtual Desktops. Here are some of the most useful Hotkeys for everyday use.

Basic Hotkeys

Ctrl+C : Copy the selected item
Ctrl+X : Cut the selected item
Ctrl+V : Paste the selected item
Ctrl+Z : Undo an action
Alt+Tab : Switch between open apps
Alt+F4 : Close an active item, or exit an app
Windows key + L : Lock your PC or switch accounts
Windows key + D : Display and hide the desktop
Shift+Delete : Delete item without moving to Recycle Bin

Snap Hotkeys

Windows key + Up Arrow : Maximize current window
Windows key + Down Arrow : Restores window size
Windows key + Left Arrow : Snaps current window to the left
Windows key + Right Arrow : Snaps current window to the right
Windows key + 2 Arrow Keys : Snaps current window into one corner

Typing Hotkeys

Ctrl + C : Copy the selected item
Ctrl + D : Delete the selected item and move it to the Recycle Bin
Ctrl + R : Refresh the active window
Ctrl + V : Paste the selected item
Ctrl + Y : Redo an action
Ctrl + Z : Undo an action
Ctrl + Right arrow : Move the cursor to the beginning of the next word
Ctrl + Left arrow : Move the cursor to the beginning of the previous word
Ctrl + Down arrow : Move the cursor to the beginning of the next paragraph
Ctrl + Up arrow : Move the cursor to the beginning of the previous paragraph
Ctrl + Shift with an arrow key : Select a block of text

NEW WINDOWS HOTKEYS

Windows key + A : Open Action centre
Windows key + S : Open search
Windows key + C : Open Cortana in listening mode
Windows key + I : Opens the new Windows 10 Settings menu.
Windows key + X : Opens a system context menu.
Windows key + H : Open the Share charm
Windows key + T : Cycle through apps on the taskbar
Windows logo key + comma : Peek at the desktop
Windows key + Tab : Open Task view
Windows key + Ctrl + D : Add a virtual desktop
Windows key + Ctrl + Right Arrow : Switch to virtual desktop on the right
Windows key + Ctrl + Left Arrow : Switch to virtual desktop on the left
Windows key + Ctrl + F4 : Close the virtual desktop you're using





File Explorer Shortcuts

File Explorer is your main interface for organising the files you store on your PC. Here are some useful shortcuts to speed up operations.

- Alt + D** : Selects the address bar
- Ctrl + E and Ctrl + F** : Select the search box
- Ctrl + N** : Open a new window
- Ctrl + W** : Close the current window
- Ctrl + mouse scroll wheel** : Toggles through folder size and layout options
- Ctrl + Shift + E** : Display all the folders above the selected folder
- Ctrl + Shift + N** : Create a new folder
- Num Lock + asterisk (*)** : Display all sub-folders under the selected folder
- Num Lock + plus (+)** : Display the contents of the selected folder
- Num Lock + minus (-)** : Collapse the selected folder
- Alt + P** : Display the preview pane
- Alt + Enter** : Opens the Properties dialogue box
- Alt + Right arrow** : View the next folder
- Alt + Up arrow** : View the folder in which the current folder is contained
- Alt + Left arrow or Backspace** : View the previous folder
- Right arrow** : Display the current or select the first sub-folder
- Left arrow** : Collapse the current selection or select the folder it was in
- End key** : Display the bottom of the active window
- Home key** : Display the top of the active window
- F11** : Maximise or minimise the active window



DESKTOP HOTKEYS

- Windows key + Home**: Minimise all but the active desktop window
- Windows key + Shift+Up arrow**: Stretch the desktop window to the top and bottom of the screen
- Windows key + Shift+Down arrow**: Restore desktop windows vertically, maintaining width
- Windows key + Shift + L arrow or R arrow**: Move window from one monitor to another
- Windows key + Spacebar**: Switch input language and keyboard layout
- Windows key + Ctrl + Spacebar**: Change to a previously selected input
- Windows key + Enter**: Open Narrator
- Windows key + forward slash**: Initiate IME reversion
- Windows key + plus or minus**: Zoom in or out using Magnifier
- Windows key + Esc**: Exit Magnifier

Taskbar Hotkeys

- Shift + click a taskbar button** : Open an app or quickly open another instance of an app
- Ctrl + Shift + click a taskbar button** : Open an app as an administrator
- Shift + right-click a taskbar button** : Show the window menu for the app
- Shift + right-click a grouped taskbar button** : Show the window menu for the group
- Ctrl + click a grouped taskbar button** : Cycle through the windows of the group

Dialog Box Shortcuts

Sometimes you may need to open and use a Windows dialog box when you don't have access to the mouse or trackpad. For these times there are keyboard shortcuts to help.

- Ctrl + Tab** : Move to the right through tabs
- Ctrl + Shift + Tab** : Move to the left through tabs
- Ctrl + number (1-9)** : Move to the corresponding tab
- Tab** : Move forward through the dialogue options
- Shift + Tab** : Move backwards through the options
- Alt + underlined letter** : Perform the command corresponding to that letter
- Spacebar** : Select or clear a checkbox
- Arrow keys**: Select a button

Enable the GodMode Folder

For some strange reason, Windows 10 has split the system settings and options controls over two different locations. Wouldn't it be great if you could access all of Windows 10's controls all in one place? Well, you can, by activating this secret hidden control panel.

While the availability of plentiful customisation options is one of the many ways in which Windows 10 improves over its predecessors, it is nevertheless rather annoying that those options, as well as the many settings used to optimise the performance of your system, are divided arbitrarily between the new Settings menu and the more familiar Control Panel. Some settings such as personalisation settings and Windows Update can be found only in the Settings menu, while others such as the Device Manager and advanced power options are still mostly accessed through the Control Panel. Some settings, such as Windows Defender and the language and localisation options, are inexplicably spilt between the two locations. It can all be a bit confusing to say the least.

The only reasonable explanation is that the Settings menu was designed, like Windows 8, to be more accessible for users with touch-screen systems. However one would have thought that the hugely negative response to Windows 8 and the subsequent rethink that has led to the more keyboard friendly Windows 10, would mean that Microsoft's interface design team would make the settings more adaptable too. Apparently that department didn't get the memo though, so for now at least we're stuck with this bizarre two tier system.

If you're tired of switching back and forth between the Settings menu and the Control Panel searching for a particular setting, you'll be happy to learn that there is a way to access all settings and controls in one place. It's a secret hidden control panel known as GodMode, a dedicated folder that lets you access all the vital settings, obscure sub-menus and hidden control panels that Windows has to offer, all in one handy list. Using the GodMode menu you can do everything from adding clocks for different time zones to defragmenting your drives without ever having to search through the Settings page or Control Panel. Like us you'll probably be wondering why something so useful isn't a standard feature; don't worry because it's surprisingly easy to set up.

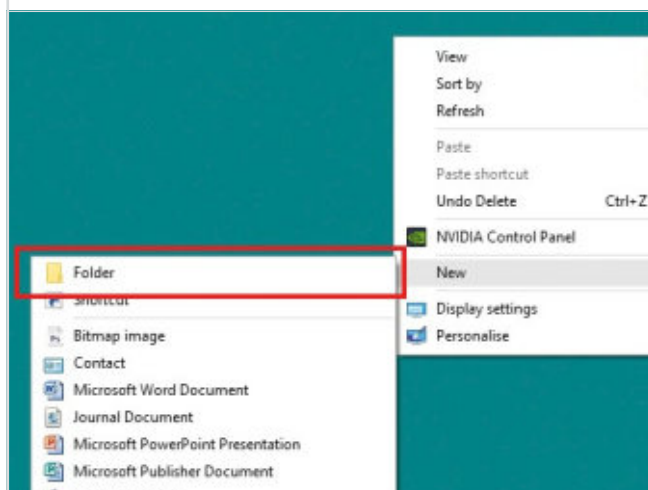
Some users with deeply held religious beliefs have expressed concern over the name "GodMode". Far be it from us to comment on the Almighty's choice of operating system (probably Unix) but if the name is a problem for you, please note that in step 3 you can replace the phrase "GodMode" in the text string with anything you like as long as it has no spaces and you follow it with a full stop. The new phrase you choose will become the name of the folder.

Easier Windows 10 Settings

Although it isn't really that difficult to remember how to access the two different sides of the Windows 10 settings, it can sometimes make simple tasks take longer than needed. Having everything in one place makes sense.

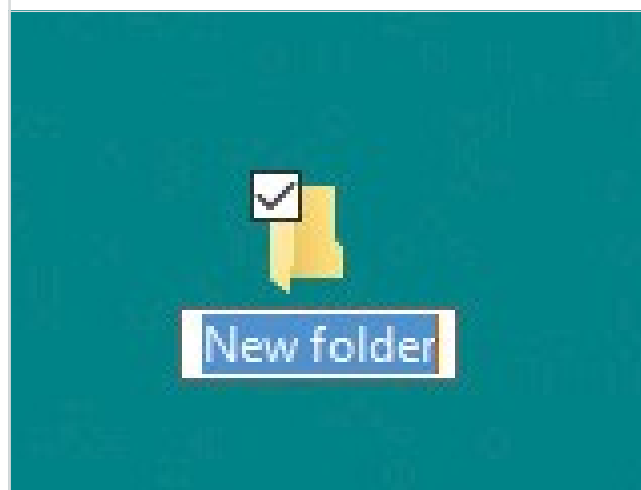
Step 1

Go to your desktop and right-click anywhere on the screen. In the pop-up menu, mouse over New and from the sub-menu select Folder.

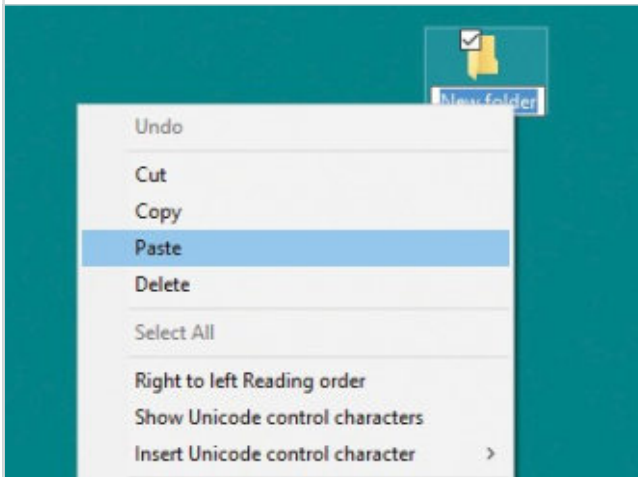


Step 2

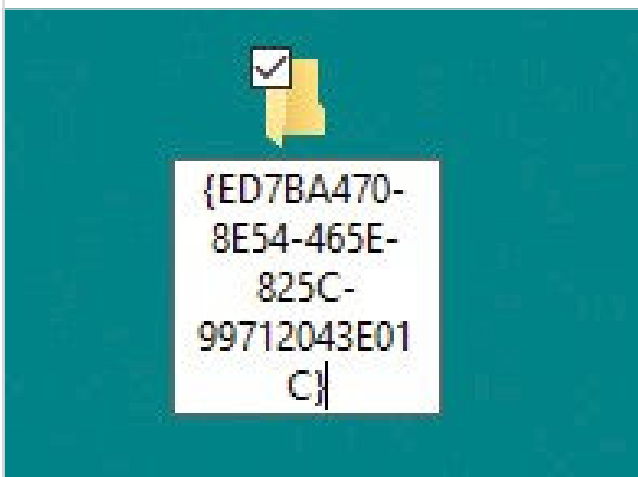
Click on the folder name and highlight it. You need to replace the name of the folder to activate the special mode.



Step 3 Type this exact string of characters, including the full-stop and brackets, in place of the folder name: GodMode.{ED7BA470-8E54-465E-825C-99712043E01C}



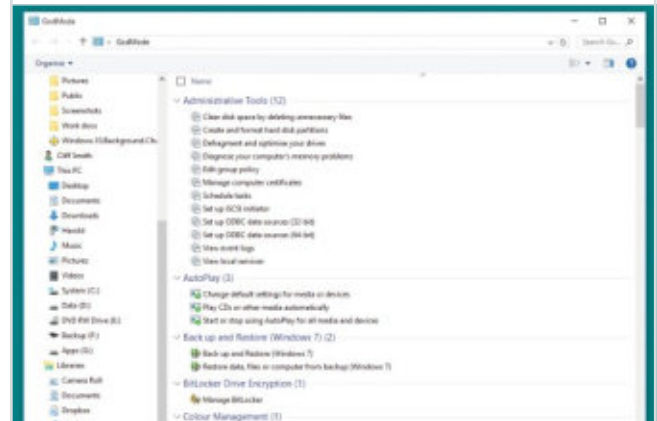
Step 4 Note the full-stop between the word GodMode and the first bracket. You can replace the word GodMode with any other text you like, as long as the full-stop remains.



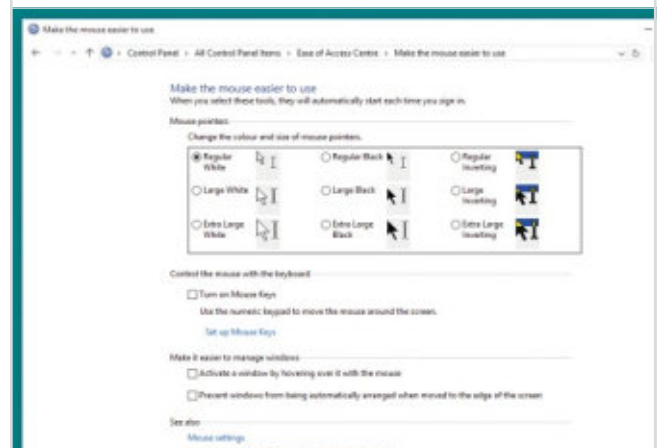
Step 5 As soon as you replace the folder's name, you'll see the folder icon change to a blue Control Panel icon.



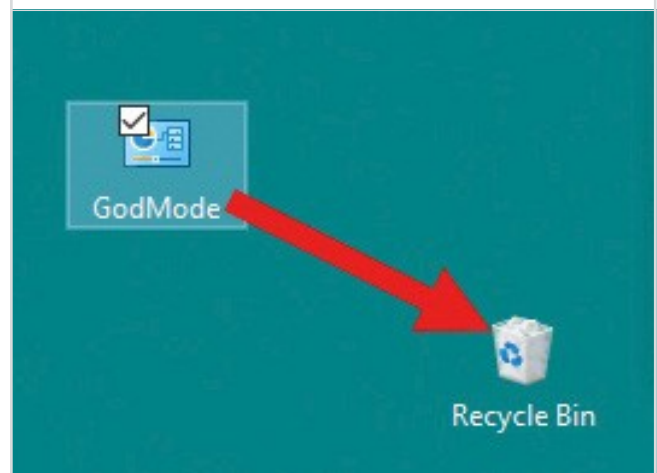
Step 6 Double click on the new icon to see the GodMode control panel. It's a huge list of settings and options divided into categories such as Administrative tools, Colour management, User Accounts and more, letting you customise every aspect of Windows.



Step 7 To use a GodMode setting or option, double-click on it in the GodMode list. Most of the settings can be accessed normally via the Control Panel or settings but here you have every sub-option in one list.



Step 8 If you don't want to use the GodMode panel any more, simply delete the folder. You can re-create it at any time by following steps 1-3.



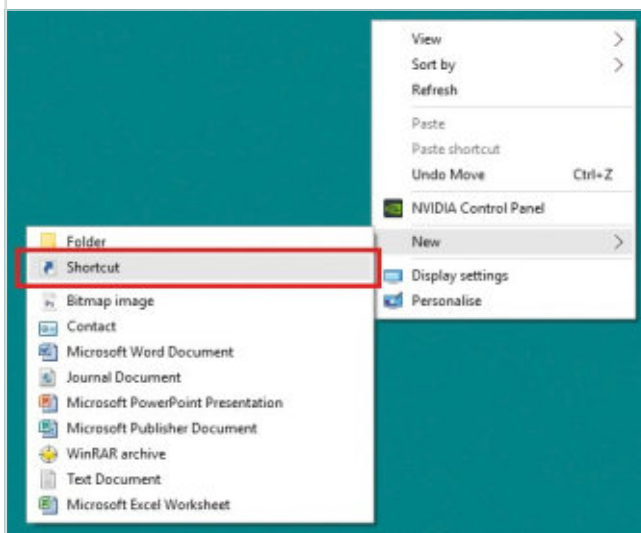
Put a Desktop Link on the Taskbar

Windows 10 is one of the most customisable versions of the OS, if you know the ins and outs. Do you miss that old Show Desktop button from Windows XP? Luckily for you there's a way to add a button with exactly the same functionality and even the same icon to Windows 10.

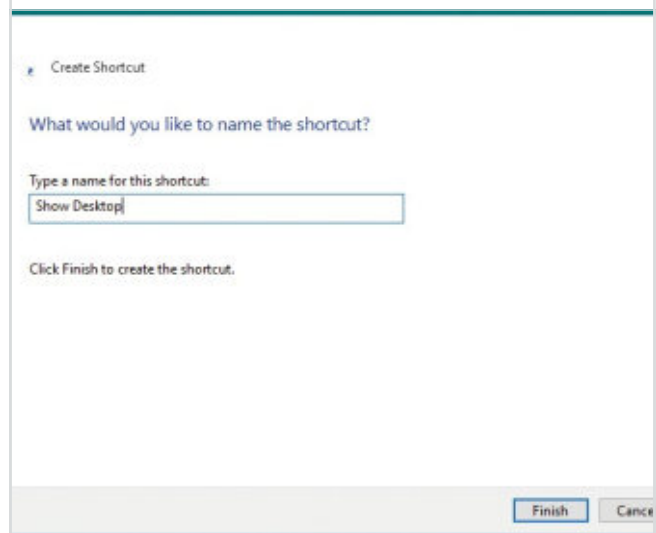
The Windows Taskbar

Older versions of Windows had a button on the taskbar that would instantly minimise or hide all open windows and show you the full desktop. Here's how to add just such a button to Windows 10.

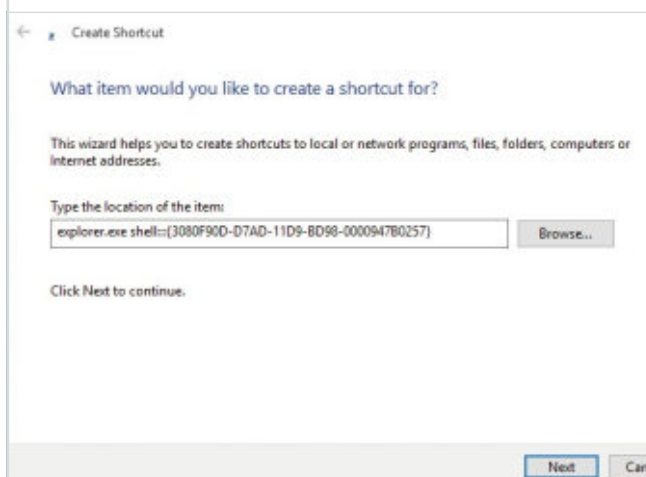
Step 1 Right-click anywhere on the Desktop and from the pop-up menu select New, and then Shortcut.



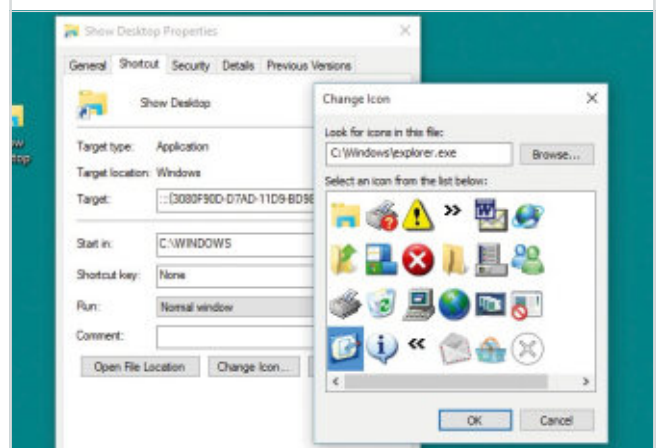
Step 3 Click Next and type the name "Show Desktop" into the text box in the second dialogue window. Click Finish.



Step 2 A dialogue window will appear, asking you to type in the location that the shortcut will point to. Type this exact string of characters, including the three colons, into the text box: explorer.exe shell:::{3080F90D-D7AD-11D9-BD98-0000947B0257}



Step 4 Right-click on the shortcut and select Properties; click on the shortcut tab and then click on the Change Icon button. In the icon palette that appears, select the icon shown below. Also in the right-click menu, click on Pin to taskbar and then drag it into position next to the Start button.



Put a Web Search Bar on the Taskbar

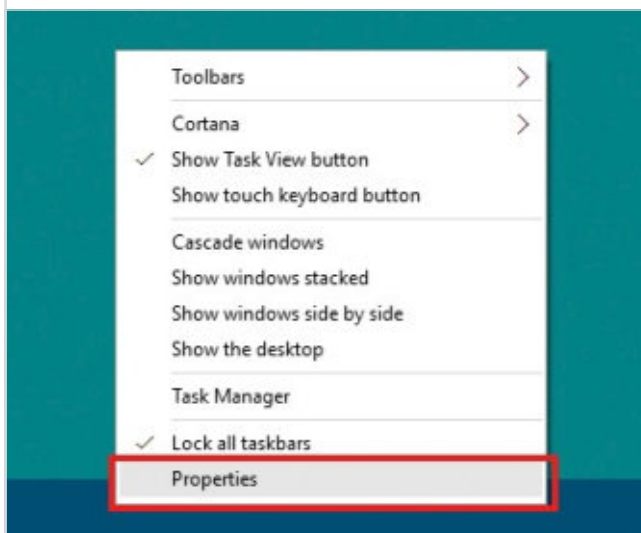
If you've disabled Cortana and restricted the Windows search function to local results only, you may want to put a web search bar on the taskbar to replace it. This is a fairly simple task, as long as you understand how the taskbar works, and how Windows 10 interacts with it.

Adding a Search Bar

Luckily for you there is a simple method to put a web search bar right on the taskbar. It's a Bing search bar and there's no easy way to change that but it's still a useful feature. Here's how to do it.

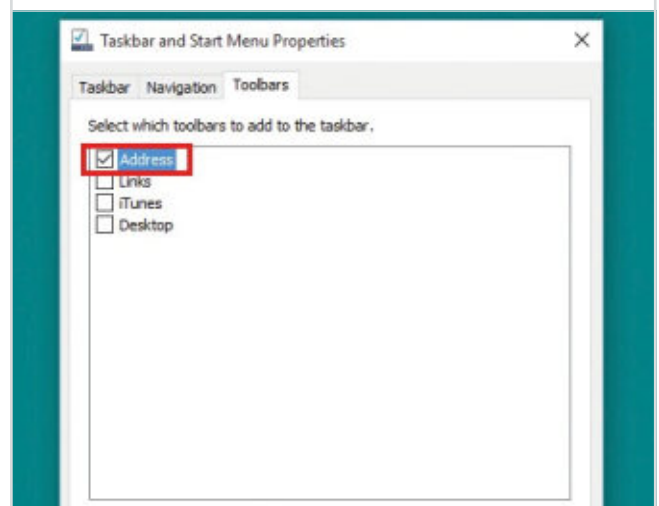
Step 1

Right-click anywhere on the taskbar and then select Properties from the pop-up menu.



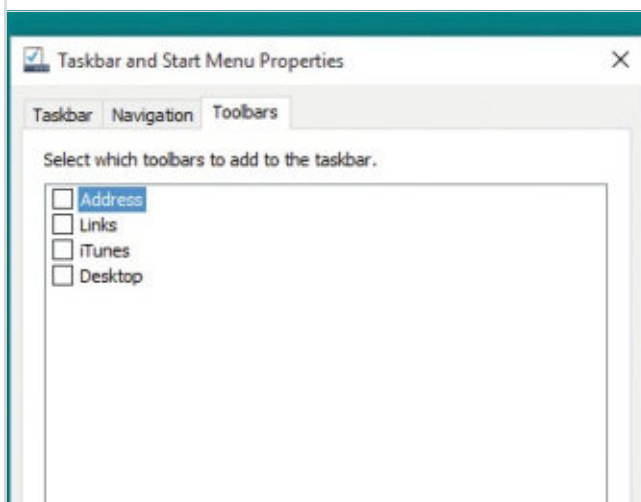
Step 3

Click in the check box next to Address and then click on Apply. You'll see the web search bar appear on the right-hand side of the taskbar.



Step 2

In the Properties window click on the Toolbars tab. You'll see a list of options for toolbars that can be added to the taskbar.



Step 4

Now when you type a search term or web address into this new text window, your default browser will automatically open to the website or search results.



Pin Settings to the Start Menu

One of the best and most useful features of the new Windows 10 Start menu is the ability to pin shortcuts to your most frequently used settings to it as tiles. This seemingly very simple trick can really make using your PC easier and faster on a daily basis, which can only be a good thing.

While many users apparently considered the Windows 8 Start screen to be the worst thing since the Star Wars prequels, even the harshest critics would have to admit that it did have one or two extremely useful features. One that was particularly handy was the ability to pin apps and settings to the Start screen, move them around and sort them into labelled groups, which meant that the Start screen could serve as the launch pad for your entire Windows experience, just as it was intended to be.

When Windows 10 was first announced in late 2014, the “new” feature that attracted the most publicity, at least among that section of the computer press that likes to believe that their opinions carry some weight, was the welcome return of the Start button and the Start menu. It was immediately hailed as a major improvement over the reviled Windows 8 Start screen and a triumph of people power over the corporate domination of Microsoft. However in reality this was just a bit of marketing hype to try to appease the critics because the Windows 10 Start menu is essentially just the same as the Windows 8 Start screen, cosmetically redesigned and with a few extra features attached to make it look a bit like the Start menu from Windows 7. It still

retains most of that Start screen functionality from Windows 8, specifically its role in customising your desktop experience. It still uses the same tiles and you can still customise it to suit your own needs.

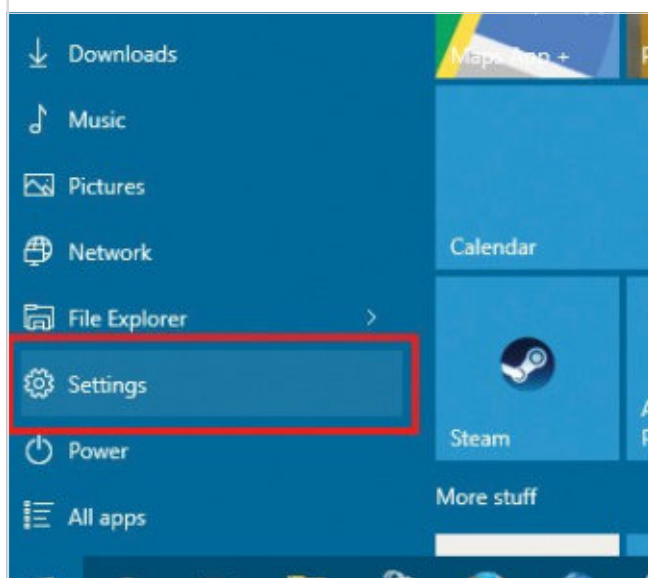
The Windows 10 Start menu features the ability to resize and organise tiles to suit your needs; it has live tiles that can keep you informed about breaking news, weather forecasts, emails and social media updates and of course you can pin shortcuts to apps, web pages and system settings to it for fast and convenient access. Just as Windows 8 did, Windows 10 makes the Start menu the centre of the system. Whatever your opinion of the tile based interface of the Start menu, there’s no denying that it’s an effective way to use, store and organise such shortcuts.

Of course if you really hate the whole tile interface concept and don’t want be reminded of Windows 8 ever again, you can always just un-pin all the tiles, leaving you with just the basic sidebar links but that sounds a lot like cutting off your nose to spite your face. You’d probably be better off reverting to Windows 7.

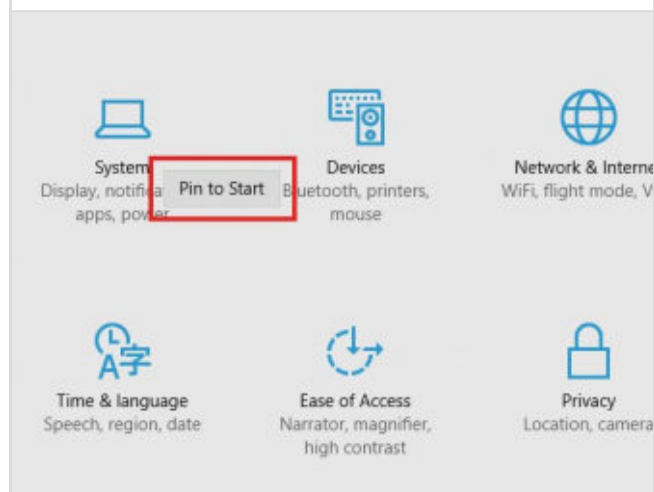
Pinning and Unpinning

Following this guide, you can build what is effectively your own customised settings panel, made up of items that are usually scattered between the Settings screen and the Control Panel. This is how you do it.

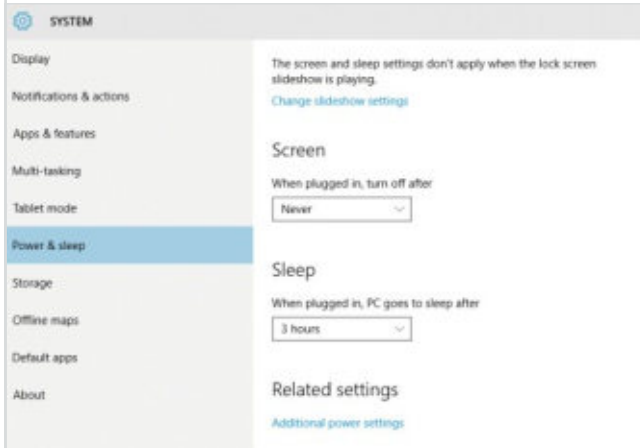
Step 1 Click on the Start button and then click on Settings to open the Settings screen.



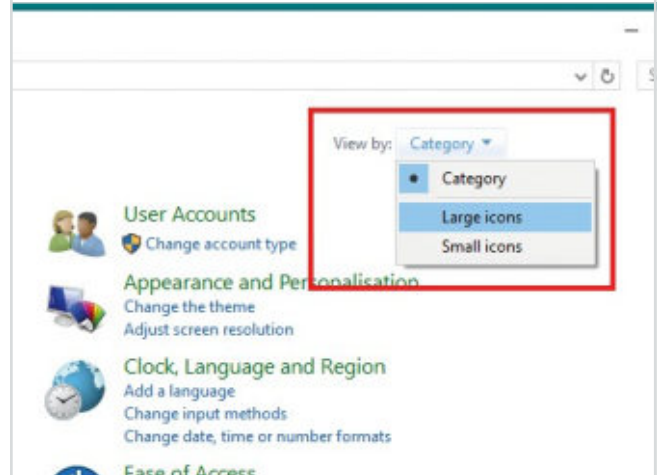
Step 2 If there’s an entire category of settings that you go to frequently, you can pin them to the Start menu en masse. Right-click on the category button on the Settings screen and you’ll see the option “Pin to Start”. Click this to pin the entire category to the Start menu.



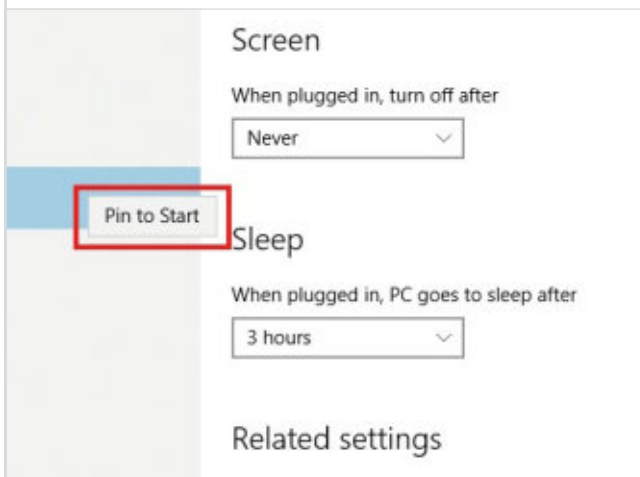
Step 3 To pin individual settings options to the Start menu, click on a settings category to go to the settings menu. Choose the individual setting from the sidebar menu on the left of the screen.



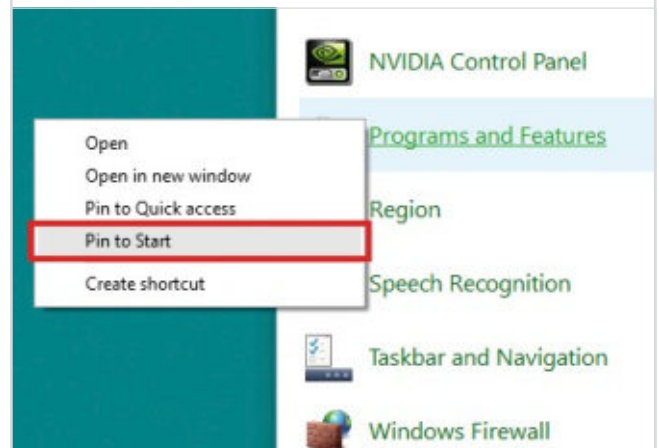
Step 6 In the upper right corner of the Control Panel you'll see a drop-down menu labelled "View by:" Click on this and select either of the icon views.



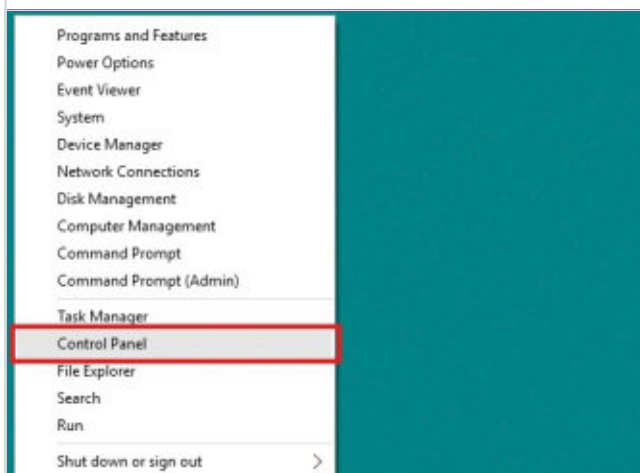
Step 4 Right-click on the sidebar menu option of the setting you're looking for. Again you'll see the option "Pin to Start", so click on this and pin that setting to the Start menu.



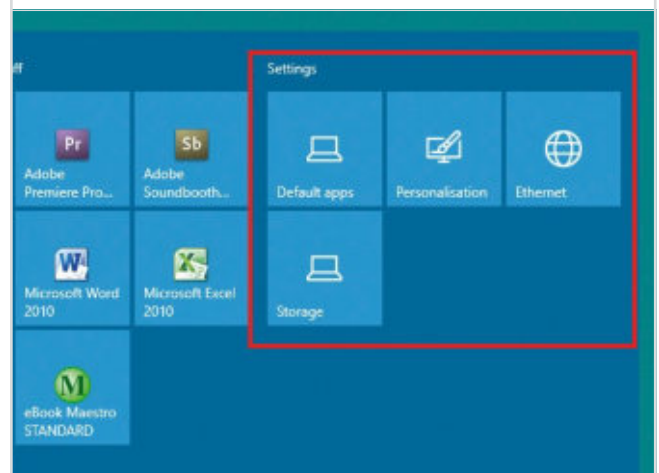
Step 7 Right-click on the icon of the setting you're looking for and select "Pin to Start" from the pop-up menu. Note however that not all Control Panel settings can be pinned in this way.



Step 5 To pin Control Panel settings to the Start menu, first right-click on the Start button and select Control Panel from the power menu.



Step 8 Now open your Start menu and rearrange the new tiles to make them easy to find and access and if necessary label the group.



Mastering Microsoft Edge

There's a brand new browser in Windows 10 – Microsoft Edge. It's focused on modern web standards and is fast. It also boasts several innovative features, such as the ability to highlight parts of web pages and share them.

Meet Your New Browser

Edge is fast and fluid and we think you'll like it. It may not have the capability of Chrome or Firefox as yet but for basic web browsing it's almost perfect. Before you choose an alternative, why not see what Edge can offer?

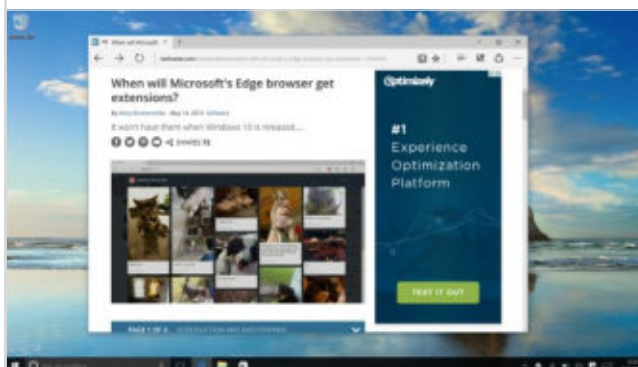
New Logo

Microsoft Edge carries on Internet Explorer's use of a stylised 'e' as its logo. This is to make things simple for users who are familiar with Internet Explorer. As with Windows 8, Windows 10 uses 'flat' design and Edge is no different, with a minimalistic appearance designed to make controls stand out.



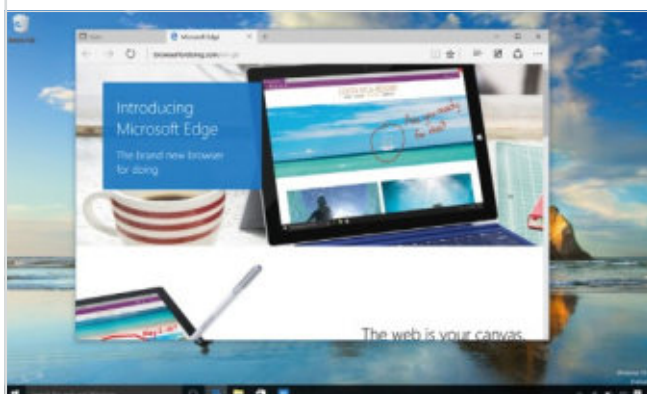
Not Everything is There Yet

Although it's planning to, Microsoft hasn't yet added Extensions to Microsoft Edge. Extensions are third-party applications you can add to your browser to perform extra functions. If you've used Google Chrome or Mozilla Firefox, you'll be familiar with Extensions from those browsers. Internet Explorer never had the ability to add Extensions, sometimes known as add-ons.



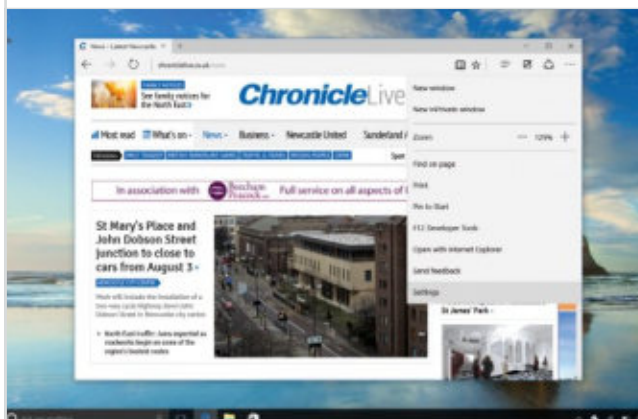
Basic Controls

If you're familiar with almost any modern browser then you'll be instantly at home. The forward/back/refresh panel is almost identical to other browsers. The security padlock also resides in the same place. The default new tab page shows you your most visited sites, but you can have news from MSN appear instead. This is actually quite compelling, as you get an instant snapshot of what's going on.



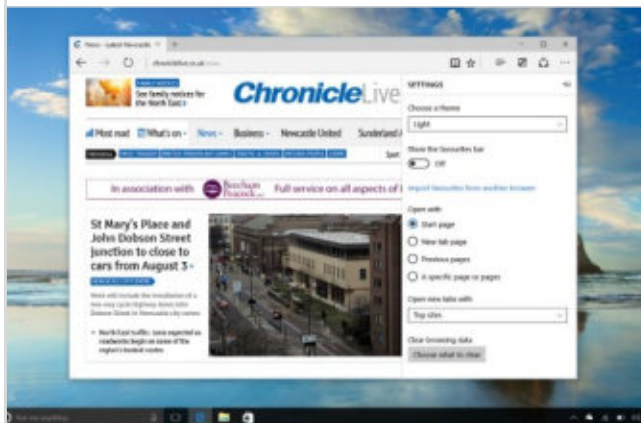
Into the Menu

As well as Edge's main controls on the top left there are other items on the top right including the main menu to access more options. This is the ellipsis (...) icon in the top right. From the main menu you can open a new window or a new InPrivate window as well as zoom into the current page.



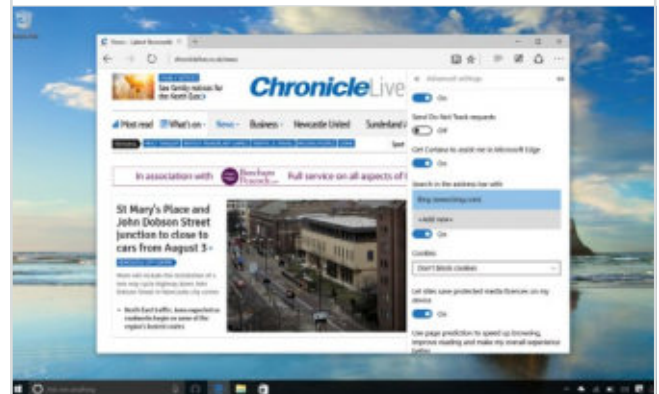
Accessing Settings

From this menu you're also able to access Settings too, as well as Print and Find to locate a word or phrase in the open web page. Another option enables you to pin a particular web page to the Start menu as a tile should you wish to.



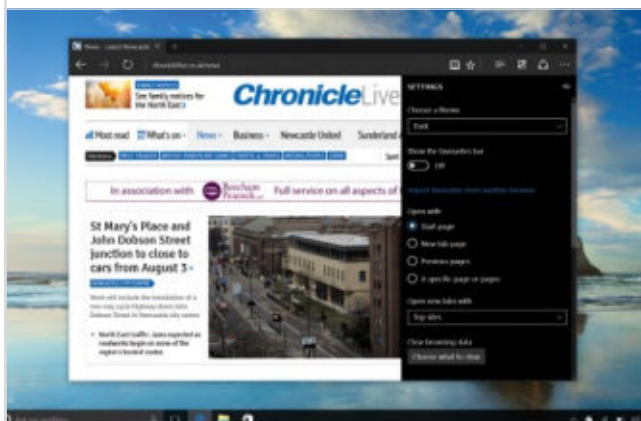
Change Search

Microsoft Edge is set to use Bing as its default search engine, but you can change search provider in the Advanced Settings menu. As you type into Edge's search box, the browser will recommend search suggestions; you can turn this off here should you want to (we find it quite useful).



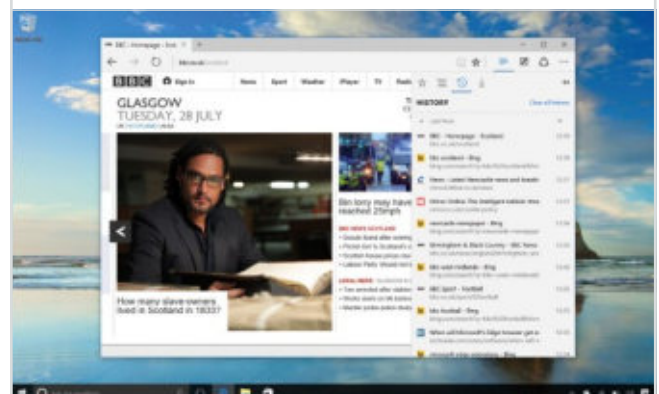
Change the Theme

As well as the 'light' default theme of Microsoft Edge, there's an option in Settings to display a black theme. It's becoming a lot more common for applications to have 'dark' themes, and the Windows 10 taskbar is dark too. It's a good alternative to having super bright apps.



The Main Sidebar

Again in the top right, the ≡ icon launches the sidebar featuring your Reading List, Favourites, Downloads and History. If you've used Internet Explorer recently at all, this sidebar will be familiar to you as it's basically the same interface element. There is, however, a new Reading List.



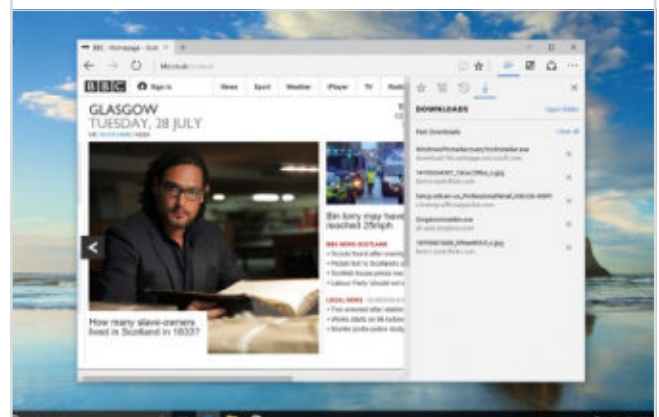
Going Beyond the Basics

The basic Settings menu is pretty lean on options. An Advanced Settings button at the bottom takes you into another menu with further options. This part of Edge is for more advanced users and it covers privacy, such as enabling browser cookies and other security settings.



Cycling Through

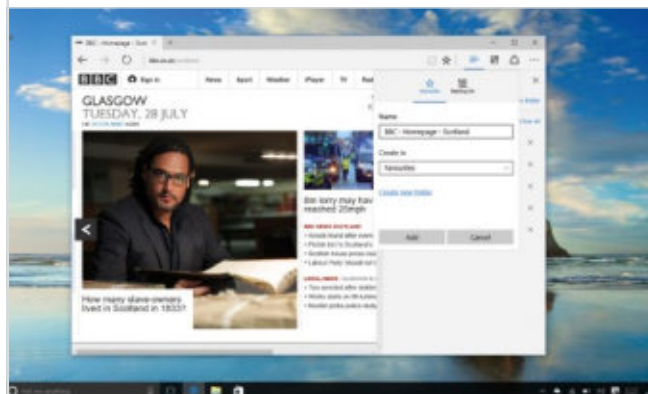
In the top right of the sidebar there's a pin to keep the sidebar open, rather than just temporarily. You can move easily between your Reading List, Favourites, Downloads and History; just use the icons at the top of the bar to select the one you need.



Adding to Your Lists

As in Internet Explorer, you click the star next to the address bar to

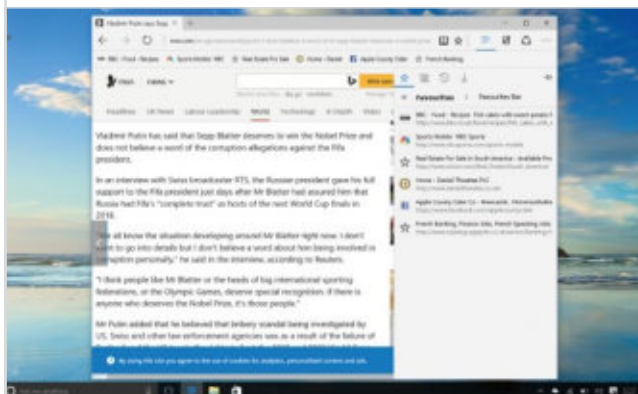
Favourite a page. In Edge, the difference is that you're now also offered the ability to add to your Reading List. Your Reading List is a great place to store more in-depth articles that you wish to return to later.



Favourites Bar

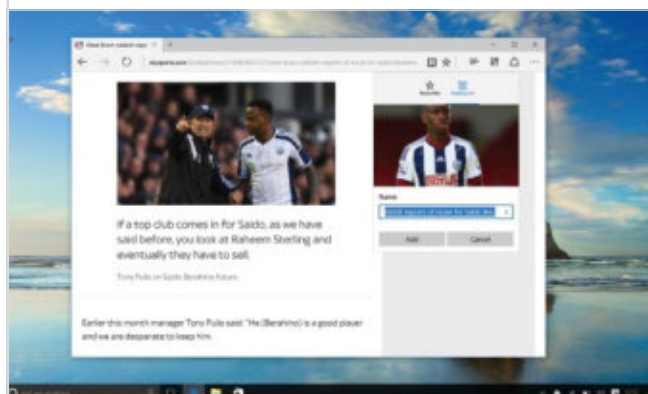
One of the folders is called Favourites Bar.

This is a bar you can toggle on and off to permanently display certain Favourites (included in the Favourites bar folder) in a strip underneath the address bar. To enable this feature, go to Settings via the main menu and switch the Favourites bar on using the toggle.



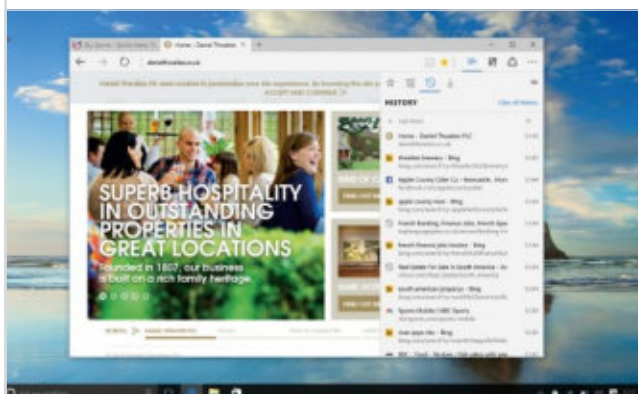
Renaming Items

When you add a new Favourite or Reading List item, you can change the information you store about that particular item. You can edit the entry in the pop-up that appears after you click the star icon. You're able to give it a new name as well as add it to a folder. To finish, click Add.



Your History

Within the History view, you can select any historical page or clear your History completely. If you don't want pages to be recorded into your History, you need to select InPrivate browsing from the main menu. This will then open a new window and no data is preserved from that session.



Add and Rearrange

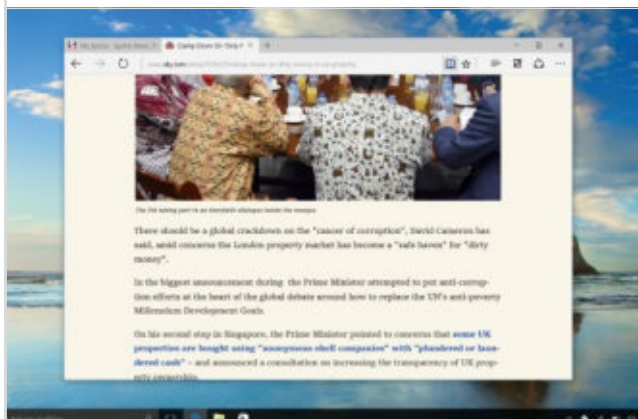
You can also drag and rearrange Favourites within the main sidebar.

You can right-click on any entry in Favourites to bring up extra options, including opening the page in question in a new tab, creating a new folder that you can then drag Favourites into or renaming or removing the item.



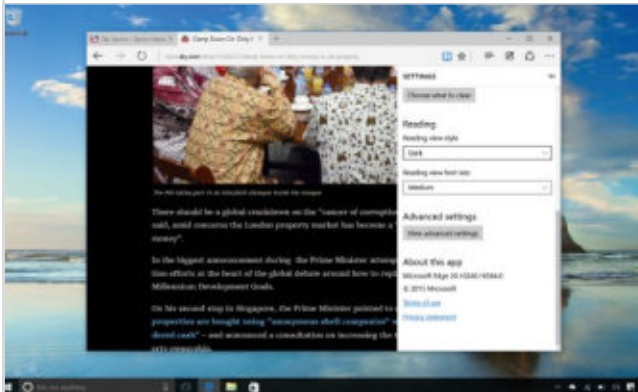
Reading View

Microsoft Edge also includes a Reading View – this enables you to remove the clutter on web pages to just display the main text. When you're reading longer web pages, Reading mode ensures you don't see any of the adverts or anything else that may distract you. Images are still shown.



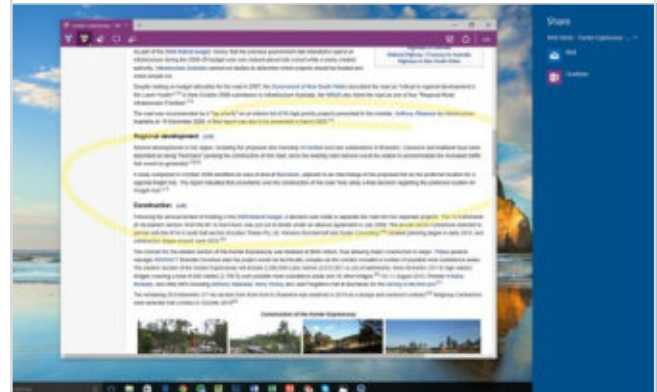
Change How You Read

You can fine-tune how the Reading mode looks in Settings – here we've selected dark for the background, but you can opt for several different shades. You're also able to change the size of the text. Reading mode may not be for everybody, but it will be especially useful for those using Windows 10 on a tablet.



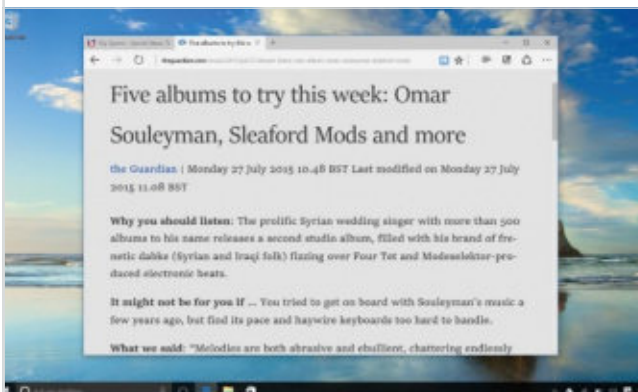
Sharing Pages

You can save, share or exit from the options shown in the top right of this mode. Your annotations can easily be shared to OneNote, which has a newly redesigned app in Windows 10 – just click the Share button. You can always share via email with a colleague or friend and there's always the fallback option of a screenshot.



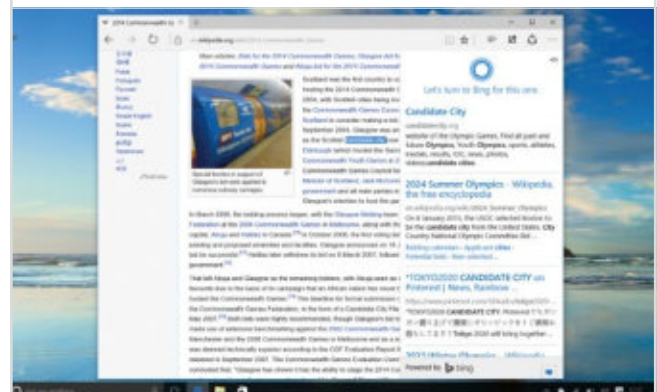
Selecting Reading Mode

To enter Reading mode, you need to be looking at an article online – so not a home page such as msn.co.uk or Microsoft.com. The book icon next to the address bar will turn black (rather than being greyed out). Click it and the article will be put into Reading mode. The icon turns blue when Reading mode is active.



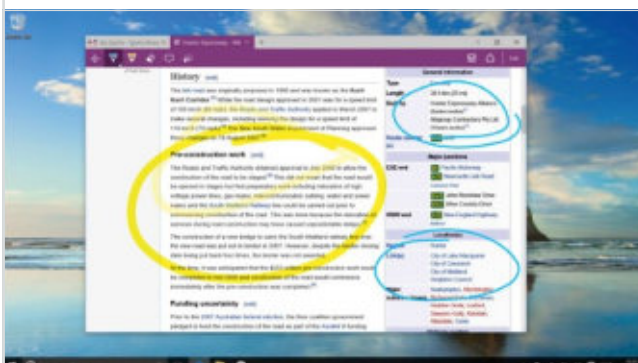
Cortana in Edge

Microsoft's virtual assistant Cortana is also incorporated within Microsoft Edge. If you highlight some text and right-click, you can select Ask Cortana. This launches a sidebar and gives you an instant web search. You can then click through to other results, such as a Wikipedia page.



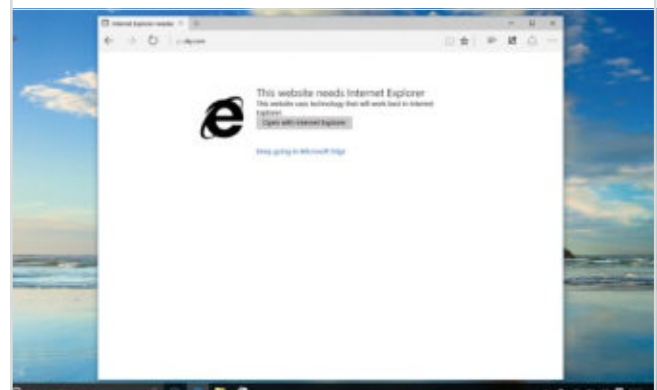
Annotating Pages

Making notes on web pages and sharing the results is one of Edge's best new features. Launch this mode using the Edit-style button next to the sidebar control in the top right of the main window. The editing controls include a pen, a highlighter, an erase function, an annotation feature and a copy tool that enables you to copy an area of a web page.



Internet Explorer Isn't Gone

As Edge is intended for use with new web technologies, Microsoft has still bundled Internet Explorer with Windows 10 in case you need it (a lot of businesses will for use with old applications). If you hit a page which Edge doesn't like, it offers you Internet Explorer instead.



Advanced Options in Microsoft Edge

Bowing to popular opinion, Microsoft has finally retired the unpopular Internet Explorer and replaced it with a brand new web browser offering more custom options to control your privacy. Edge can seem simple to use but it actually offers some advanced tools and settings if you need them.

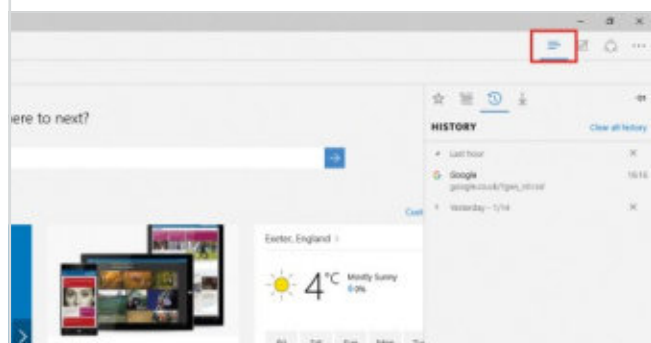
Microsoft's old web browser Internet Explorer had a terrible reputation, suffering from multiple security holes and poor privacy protection, leading many people to replace it with either Google Chrome or Mozilla Firefox. Its reputation was so tarnished that with the launch of Windows 10 last year the company introduced an entirely new web browser with a new look and a new name, Microsoft Edge.

Edge has many advantages over its unlamented predecessor. It is a lot more secure – so far – and offers a much wider range of features and customisation options. Now you have much greater control over privacy and how much of a footprint you leave online while browsing. In this section we'll take a look at some of the advanced options available in Microsoft Edge and how you can use them to improve your web browsing experience.

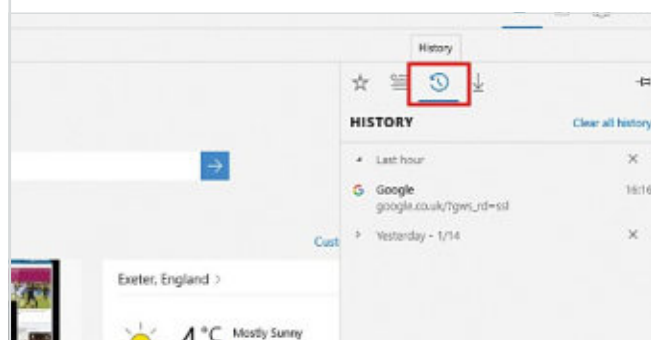
Delete Your Browsing History

Your browsing history shows all webpages visited over a set period. There are many reasons why you might want to delete your browsing history and some of them aren't even all that embarrassing.

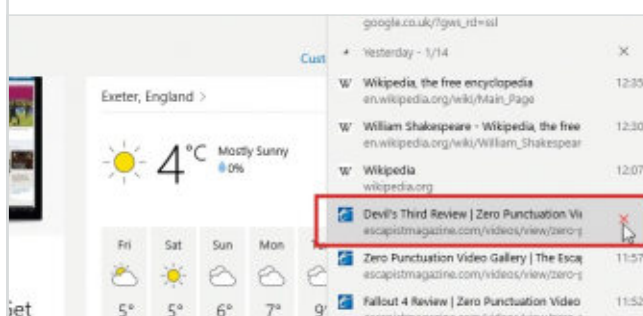
Step 1 In the upper right corner of the main Edge screen you'll see a row of buttons. The one which looks like three horizontal lines is the Hub button. Click on this to see your favourites, reading list, downloads and browsing history.



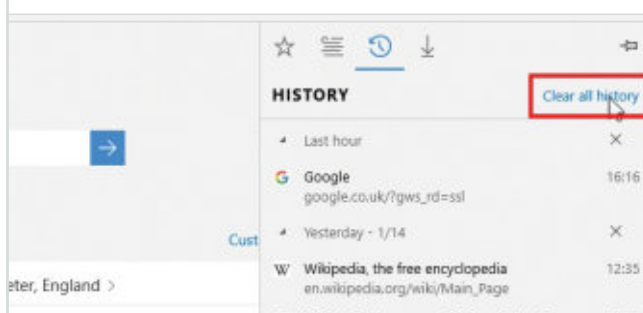
Step 2 At the top of the Hub sidebar you'll see four more buttons. Click on the third from left, which looks like a clock face with an arrow around it. This will give you access to your browsing history on this computer.



Step 3 You'll see your complete web browsing history listed, divided into different time periods, such as last hour, yesterday and more. You can delete an entire period by clicking the X next to it, or mouse over any individual entry to delete them one by one.



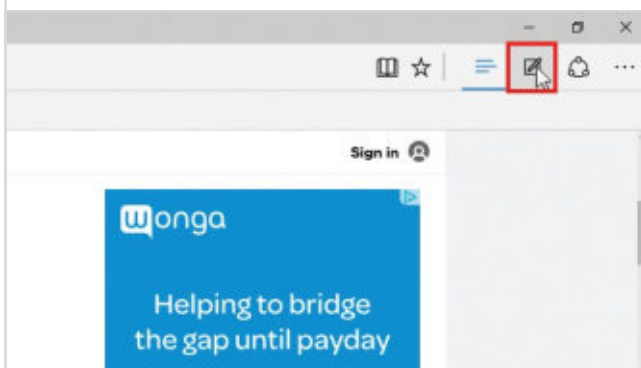
Step 4 If you want to delete your entire history, click on the "Clear all history" link at the top of the screen. You'll get the option to delete your browsing history, as well as cookies, saved website data, any cached data; and also downloads, form data and saved passwords.



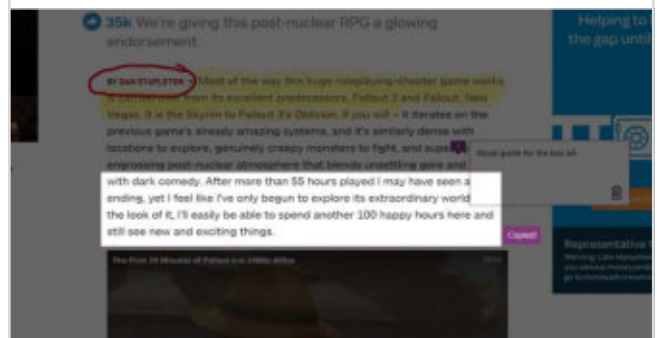
Making Web Notes

Edge lets you annotate websites, copy and paste text and images and save the results for later reference. Let's take a look at how to take full advantage of the new Microsoft Web Notes tools.

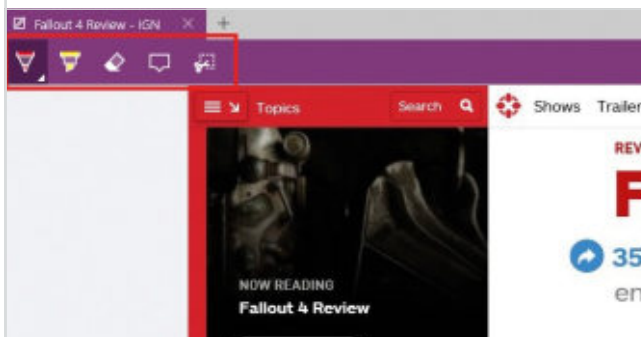
Step 1 Open a web page in Edge that you wish to annotate. In the upper right corner of the screen you'll see a row of buttons; click on the one that looks like a pen on a sheet of paper to enter the Web Note mode.



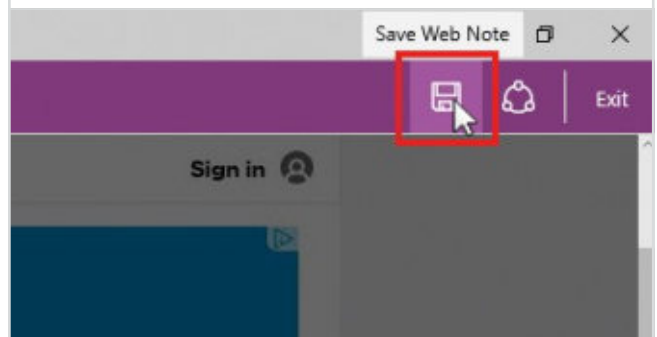
Step 3 Note that Web Note doesn't save clippings or indeed web pages as editable text but as an image that can be pasted into another document. If you want to copy and paste text you'll have to do that the old fashioned way; highlight then Ctrl + C and Ctrl + V.



Step 2 The main tools for Web Note are in the upper left corner. You have a pen to underline and circle things and marker to highlight them; there's a button to attach notes to the page and another to snip a clipping from the page. The middle button deletes the pen or highlighter marks.

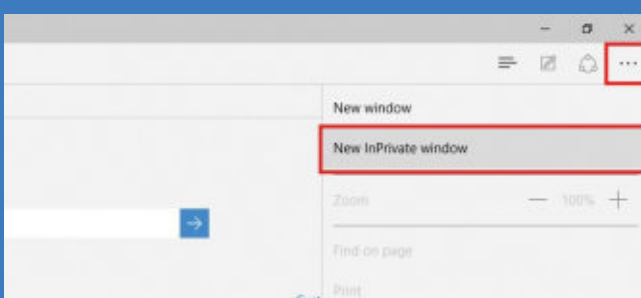


Step 4 When you've finished annotating the page you can save it for later reference or share it. Click on the icons in the upper right corner to save or share. You can save an image of the page to OneNote, Favourites or Reading list and share using Dropbox, Facebook, OneNote, Mail or Twitter.



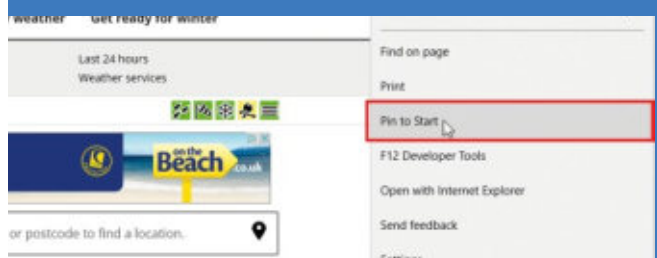
PRIVATE BROWSING

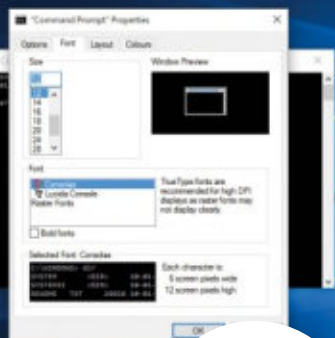
If you don't want Edge to record your web browsing history you can use the InPrivate option. Click on the menu icon, the three dots in the upper right corner, and select New InPrivate window. While using InPrivate, your browsing history, cookies and other temporary files are not saved on your PC and will be deleted as soon as you close the InPrivate window.



PIN WEB PAGES TO THE START MENU

If there's a particular website that you visit regularly you can pin it to the Start menu for quick access. While you're on the page that you want to pin, open the menu, the three dots in the upper right corner, and select Pin to Start. Now you'll have a tile in the Start menu and when you click it the Edge browser will open immediately to the saved page.





136

Expert Tips and Tricks

A collection of tips and tricks to further enhance your ability with Windows 10.



140

Tips to Improve Performance

Learn how to get the most from your Windows 10 PC, whatever the spec.

Windows 10 Tips and Tricks

Essential tips and tricks for keeping your PC running smoothly and for keeping Windows 10 working exactly the way you want it to. Learn how to improve overall performance, how to keep your drives free of clutter and how to troubleshoot common problems with the current version of Windows 10.

Contents

136 Windows 10 Expert Tips and Tricks

140 Further Tips to Improve Performance

142 Troubleshooting Windows 10

144 Windows 10 Troubleshooting Tips

144

More Windows 10 Troubleshooting Tips

Being able to solve
common problems is
an essential
Windows 10 skill.

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142



System Restore

Use a restore point recorded on your PC to restore Windows



System Image Recovery

Recover Windows using a specific system image file



Start-up Repair

Fix problems that keep Windows from loading

Troubleshooting Windows 10

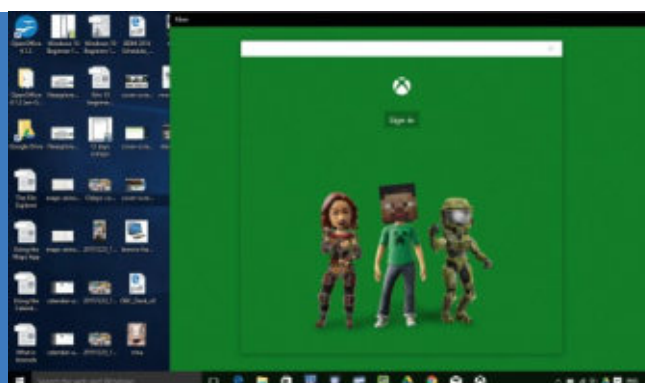
If you are having
problems with
Windows 10, this is the
place to look.

Windows 10 Expert Tips and Tricks

Even long time users of Windows will have plenty to learn when switching to Windows 10; from simple switches in the way you use your PC, to more fundamental things like the new Edge browser and Cortana. Here are a few advanced tips and tricks to further enhance your Windows 10 experience.

RECORD YOUR SCREEN

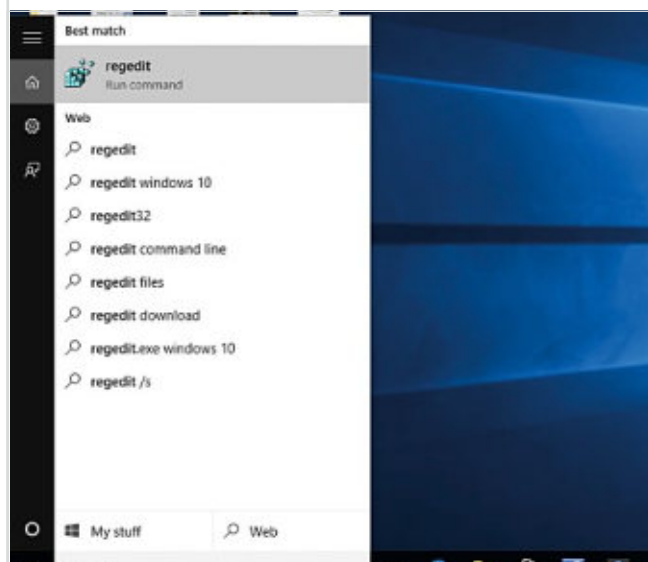
Traditionally with Windows, if you wanted to record videos of on screen apps or software, you would need to rely on a third-party solution. Windows 10 changes this by adding a recording feature to the Xbox One app, the Game Bar. Although this is designed to let you record your achievements and gameplay, you can also use it to other apps open on your computer. Accessing the Game bar is straightforward. Simply press and hold the Windows and G keys. The Game bar, which is essentially a toolbar, will then pop up on screen. You can then use it to record whichever app you wish.



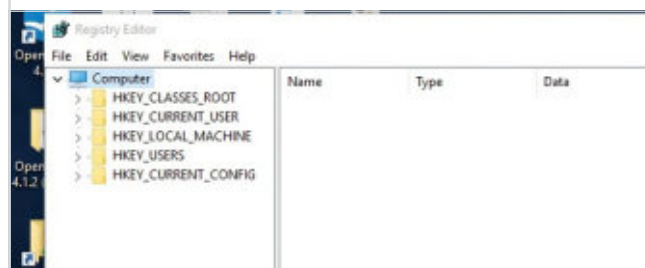
Enable Dark Mode

The new Edge browser allows users to choose a nice looking dark colour mode but it seemed as if that feature was only ever going to be available in Edge and no other apps or menus. Luckily a workaround has been found which will apply the dark mode to most (not all unfortunately) apps and menus in Windows 10. It involves editing the Registry, so be sure you are comfortable with that before you start.

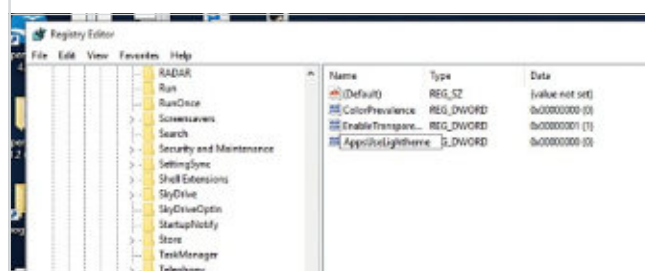
Step 1 To open the Registry Editor, type “regedit” (without the quotation marks) in the Windows 10 search bar. Click on the cube icon to launch the Windows 10 Registry Editor. User Account Control might prompt you for permission, depending on your security settings. If so, click on “Yes.”



Step 2 You now need to find the correct directory. On the left you will see the directory structure. The directory path you are looking for is: **HKEY_CURRENT_USER > SOFTWARE > Microsoft > Windows > CurrentVersion > Themes > Personalize**. So click HKEY_CURRENT_USER first, then from the menu that opens, click SOFTWARE. Followed by Microsoft and on down the path.



Step 3 On the right, in an empty area, right-click and choose “New,” then “DWORD (32-bit) Value.” You should now see a new entry on the right pane called “New Value #1” highlighted in blue. Rename the highlighted field to “AppsUseLightTheme,” and you’ll now see a new entry in the right pane called “AppsUseLightTheme” with a default value set to 0. Now just log out and then log back in.



Change the Default Search Engine

Not surprisingly in Windows 10, Bing

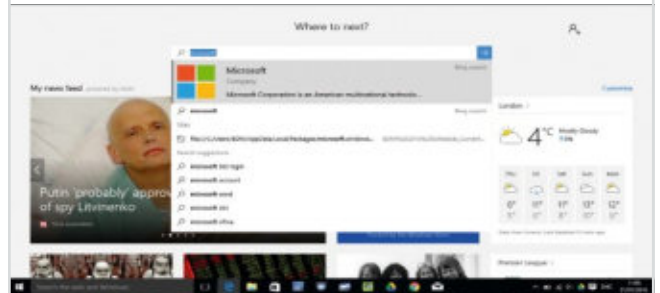
is Edge's default search engine. However, if you prefer to have a different search engine as the default, you can certainly change it. The surprisingly simple way to do this is to navigate to the homepage of your chosen search engine, Google, for example and, if it is supported, you will see an option to add it to Edge.



Use Cortana Inside Edge

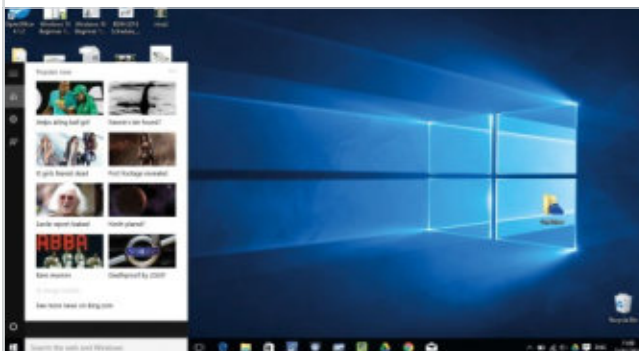
As long as Cortana has been set up through the taskbar, you

can use the personal assistant inside the Edge browser. Start using it by typing something you would typically ask Cortana into the search bar at the top of Edge. After your request is completely typed in, a Cortana window with your results will appear underneath it in blue.



At a Glance Information

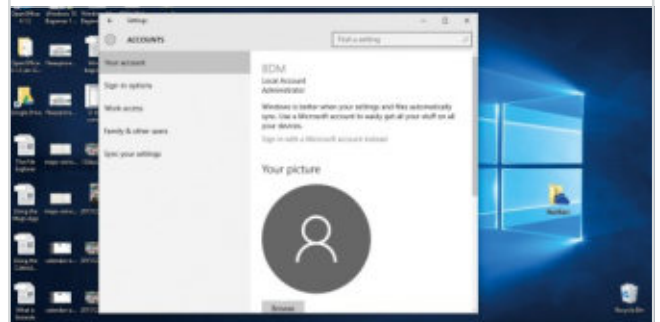
Cortana should, if set up correctly, seek out information it thinks you may need, before you actually ask for it. Therefore as soon as you click in the Cortana search field, even before you start to type your search, you should see a series of cards that display information relevant to the activity you are currently performing.



Save Locations for Cortana

Cortana works much better when it has some basic

information about you. Adding common locations for example, allows Cortana to provide better directions and traffic information. To add addresses such as home, work and your other favourite places, head to the Notebook menu and click "About Me". From here select "Edit favourites".



DISABLE SCROLLABLE BACKGROUND APPS

A simple but useful feature that has been missing from Windows for some time now is the ability to scroll in background apps without bringing them to the front. This useful feature, especially whilst multitasking, has been available in OS X for a while and now it is available in Windows 10. The scrollable background apps feature works like this: if you have two windows open, you can hover the pointer over the background window and use your mouse wheel to scroll the page without having to bring it to the foreground.

If you'd like to disable this option, head to the main Settings menu and choose "Devices." From here select "Mouse & touchpad", then the relevant option will be towards the bottom of the page.



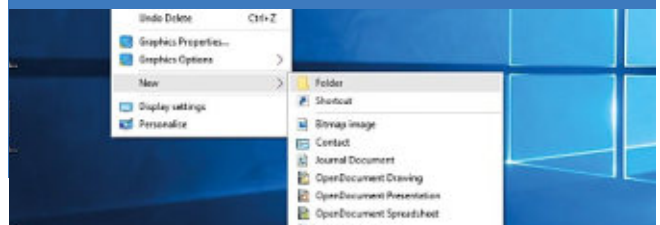
ACTIVATE GODMODE

Although this has been covered in more detail elsewhere in this book, activating GodMode is certainly still worthy of appearing in our list of expert tips here. For the first time, Microsoft has split the system settings in Windows 10, meaning options are now scattered across two separate menus, Control Panel and Settings. This can lead to a bit of confusion when it comes to finding the option you're looking for but enabling the hidden "GodMode" menu will put all of Windows 10's options back in one place.

To try it out, just create a new folder anywhere, then give it the following name:

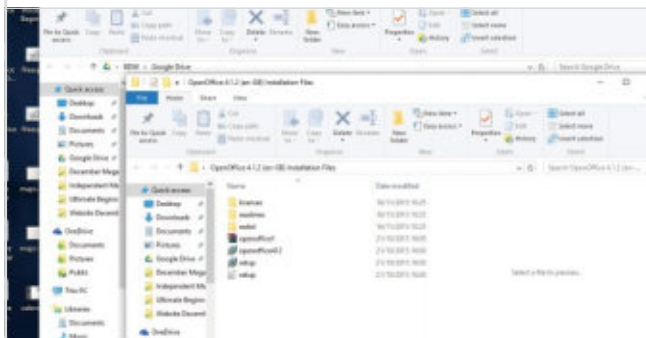
GodMode . {ED7BA470-8E54-465E-825C-99712043E01C}

From now on, just open this folder to find quick links to every single option Windows 10 has to offer.



Use Shake Gestures

In case you haven't used this one before, Windows 10 has some handy shake gestures that allow you to clear the clutter in no time. If you have a lot of windows open and you want to focus on one in particular, just grab the title bar of that window with your mouse pointer, then shake back and forth to minimise all other windows. If you want to bring the other windows back, just shake the first window again and all will be right back to normal.



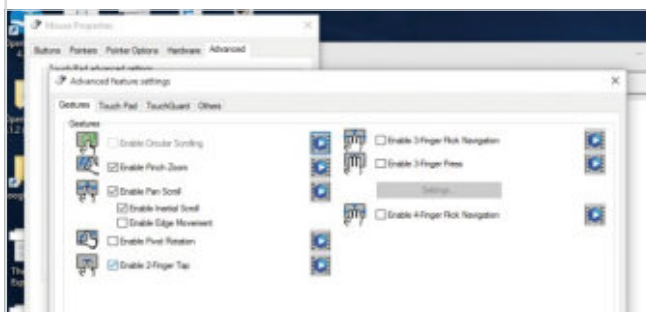
Start Menu Navigation

Inside the Start menu, under the All apps section, you have a listing of all apps categorized under their alphabet letter. When you have a lot of apps, navigation can become a bit frustrating, so to help make this easier, you can simply click on any of the heading letters and you will be greeted with an animation that displays the alphabet for quick access. Click on whichever letter you want and the list will jump to those specific apps.



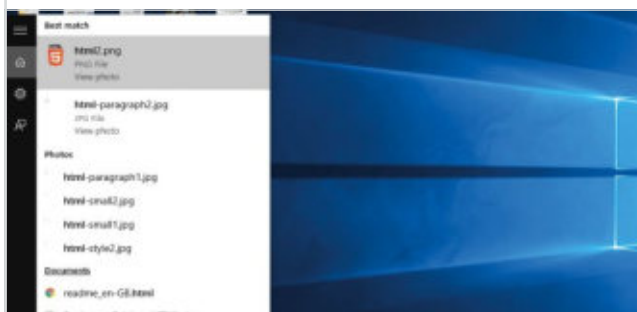
Customise Trackpad Gestures

If you are using a computer that has a trackpad instead of a mouse, such as a laptop or a 2-in-1 device, you can use some useful trackpad gestures to navigate Windows 10 more easily. There are several to try, including pinch-to-zoom, two-finger scroll, three-finger multitasking and more. More than that, you can even customise some of the gestures. Head to Settings > Devices > Mouse & Touchpad. You can then change the actions of three and four-finger taps, adjust scrolling and more.



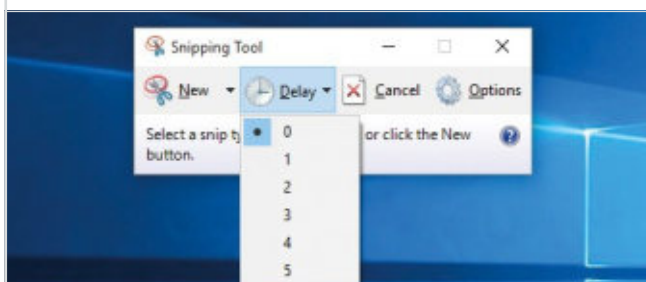
Specify Search Results

The search function of Windows 10 is pretty good, and usually very reliable; but that doesn't mean you can't use a few tricks to improve it even more, especially if you want to search amongst specific file types. You just need to add a file specifier to the search term. For example, let's assume you want to search for all HTML files on your computer. In Windows 10, you can simply type in `files:html` in the Start menu. This works for more than just files, including apps, settings, folders, etc. Just follow the syntax of "type:specifier."



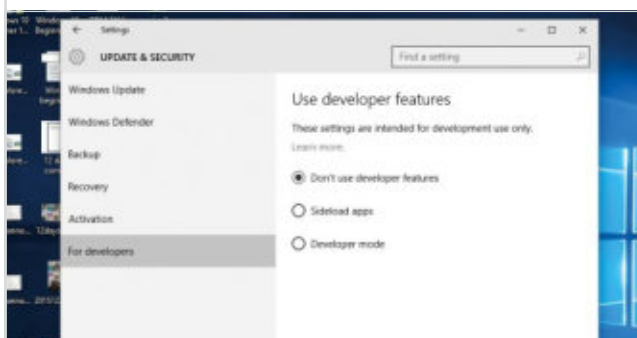
Timed Screenshots

The Snipping tool, has been a longtime Windows feature, first appearing in Windows Vista. It was initially introduced as a built-in screen grab tool and up until Windows 10, it had changed little. The Windows 10 snipping tool however, has seen the introduction of a very useful new feature (useful for some at least). In this latest version of the Snipping tool, users can set up timed screenshots. You can start a timer and take your screenshots with a 1 to 5 second delay, which can help you get the screen situated properly. Useful if you are trying to grab an image of something that isn't static.



Sideload Apps

You can now install Universal Windows apps from anywhere. Before, in Windows 8.x, the Store was the only way to get apps. Of course you could always install desktop apps as you pleased but for "Metro/Modern" apps, you were basically trapped into using the Windows Store. Now you can sideload apps from anywhere. Go to Settings -> Update & Security -> For developers, then toggle "Sideload apps" on.

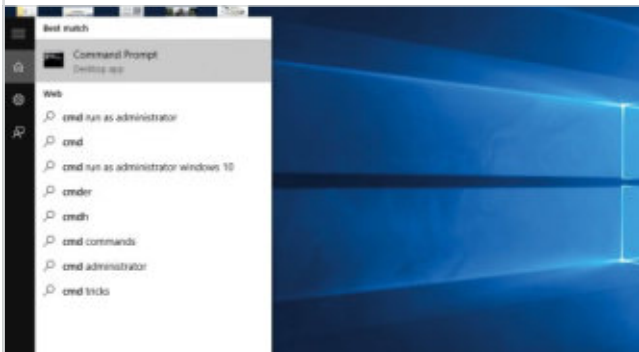


Customise the Command Prompt

Windows 10 is very much about customisation. You can customise almost everything, from the colour of Edge to the Start menu layout. The Command Prompt is no different. You can completely customise it, from the basic functions to its look.

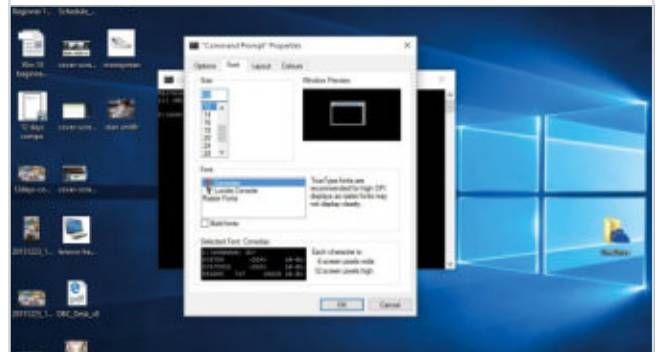
Step 1

The first thing you need to do is launch the Command Prompt. If you are unsure how to do this, here's a quick reminder. Press the Windows button on your keyboard and when the Start menu opens, type "cmd" (without the quotation marks) and then press Enter.



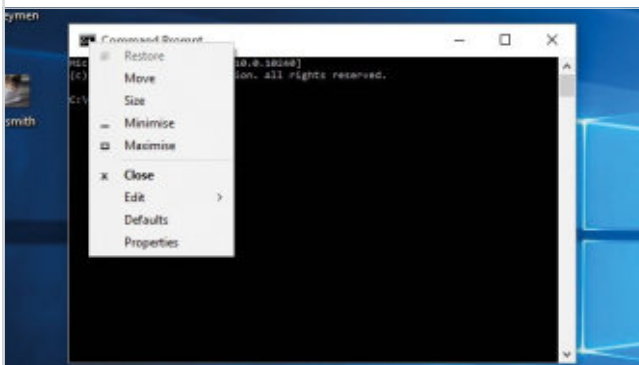
Step 4

Next, head over to the Font tab if you'd like to change the way text appears in your command prompt. There are a few fonts to choose from and you can of course change their sizes but one of the more interesting features here is an option to make fonts bold.



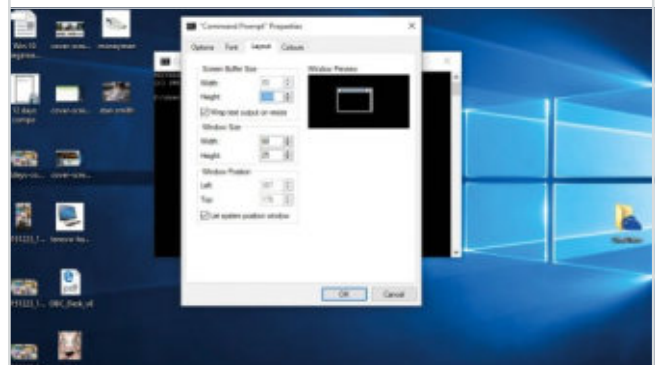
Step 2

You now need to access the Command Prompt settings menu. To do that, simply click the logo in the upper left corner of the Command Prompt window, then choose "Properties" from the context menu. From here, you will be taken to the main Options tab.



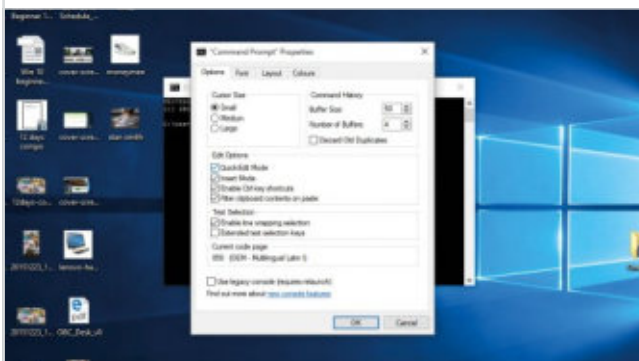
Step 5

Then, the Layout tab gives you options for adjusting the boundaries of the command prompt window itself. For instance, you can change the "Window Size" values to make the command prompt a bit bigger when it first launches, which should come in handy on today's larger monitors.



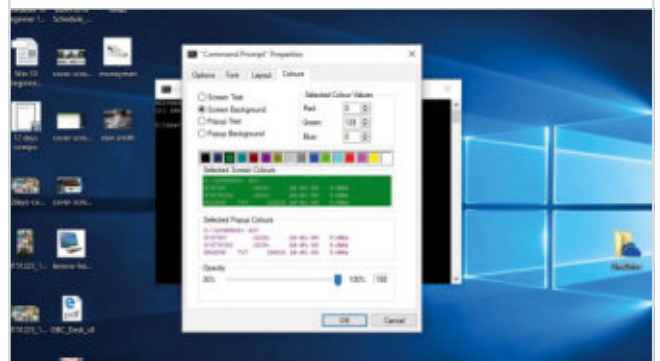
Step 3

There isn't much worth messing around with here. Most of the useful features such as copy and paste are already enabled but if you'd like to be able to highlight command text with your mouse pointer, you can tick the box next to "QuickEdit Mode" at the very least.



Step 6

The Colours tab is where you can make the biggest visual changes to the Windows 10 Command Prompt. Choose one of the four options in the upper left quadrant of this menu, then select a colour from the options. You can even enter RGB values in the upper right corner.



Further Tips to Improve Performance

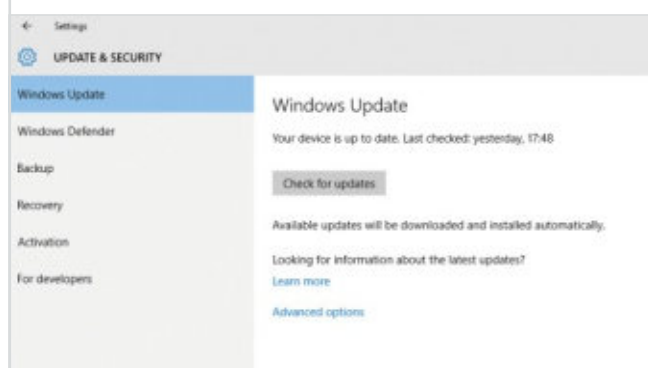
By now your Windows 10 computer should be running along like an express train at full tilt, and if not you should really go back and read through our performance enhancing guides again, but here are some more handy tips to boost the performance of your system even further.

Performance Tweaks

There are many ways to improve the performance of your PC. Some will produce only slight improvements and some will only apply to single operations, but when combined they add up to a significant boost.

Make Sure You Install the Latest Windows Updates

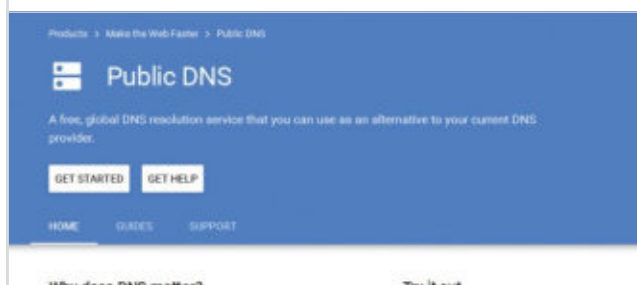
Microsoft normally releases important updates on the second Tuesday of every month, although important updates will be released immediately. You should check for and install available Windows Updates, which could include: bug fixes, security patches, Windows Defender malware definitions etc. that could help keep your system stable and improve the performance of Windows.



Switch to a Faster DNS Server

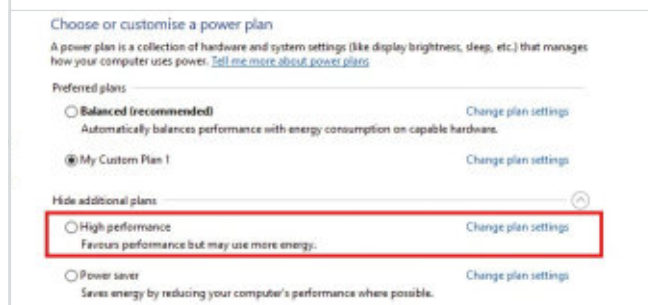
Most ISPs will boast about how much

bandwidth they are giving you but the speed of your connection isn't the only thing that makes for a fast web browsing experience. If your ISP doesn't maintain its Domain Name Server (DNS) properly it will slow down your web searches and make connecting to websites slow and unreliable. In fact slow and poorly maintained DNS servers are one of the main causes of problems connecting to websites. You might consider adding or using a fast DNS server like Google Public DNS as your primary DNS server in your TCP/IP settings to see how it compares to your ISP.



Use the High Performance Power Plan

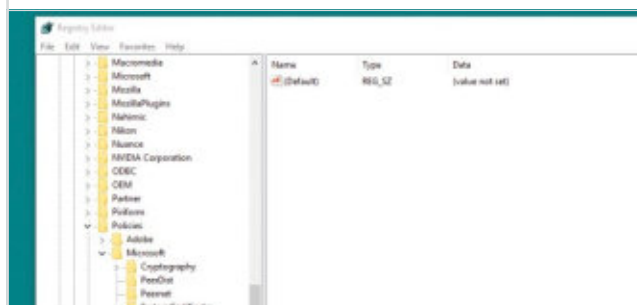
You'll find this in the Power Options section of the Control Panel; just click on "Show additional plans". By default your PC is set to use the Balanced power option, which will reduce power to non-essential components when they're not being used. By selecting the High Performance plan your PC will use more power but will be running at peak performance all the time. Note however that some laptops and tablets may run very hot under this power setting. If you notice this happening, immediately switch back to the Balanced power plan.



Speed Up Windows Shut Down Time

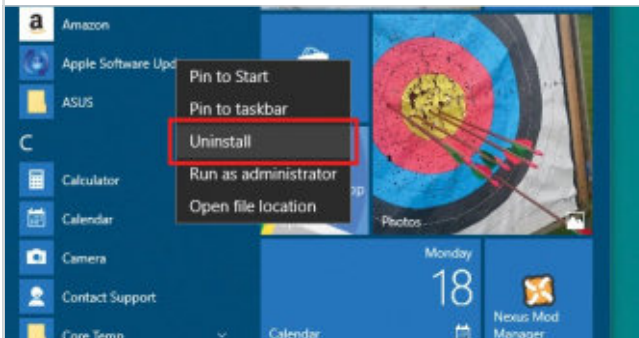
If you don't mind mucking about

in the system registry, you can set and adjust the AutoEndTasks, HungAppTimeout, WaitToKillAppTimeout, and WaitToKillServiceTimeout values, which control how long Windows waits for hung programs to close and other programs to save data and close, before shutting down. Do note however that the registry is very complex and making changes can have a catastrophic effect on your PC. Only try this if you know what you're doing. We will look at registry editing in more detail in a future issue of this book.



Uninstall Unneeded Programs

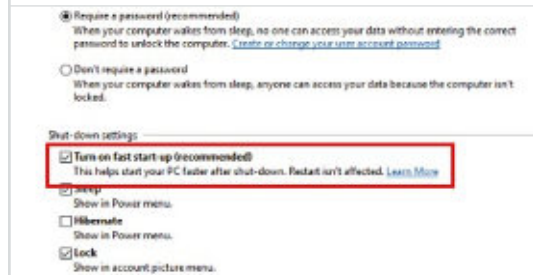
If you've got apps or games installed on your system that you just don't use anymore, it's a good idea to uninstall them. This is particularly true of off the shelf PCs that will often come pre-installed with a lot of useless software. Fortunately Windows 10 makes this easy, since you can uninstall apps from the Start menu by right-clicking on them and choosing Uninstall from the pop-up menu.



Ensure that Fast Startup is Activated

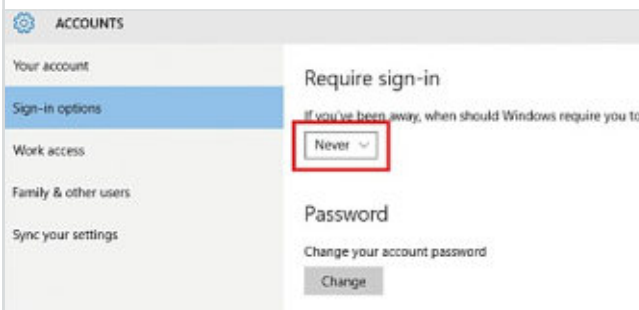
Windows 10 includes an

option to start up faster by storing an image of the Windows kernel to your hard drive when it shuts down. This saves a lot of time by bypassing a lot of initialisation and driver loading. Open the Control Panel and select Power Options. In the left sidebar of the window click on "Choose what power buttons do" and then click on the link at the top of the page: "Change settings that are currently unavailable". The greyed out settings at the bottom of the page will become active, including "Turn on fast start-up".



Automatically Sign in to Your User Account at Startup

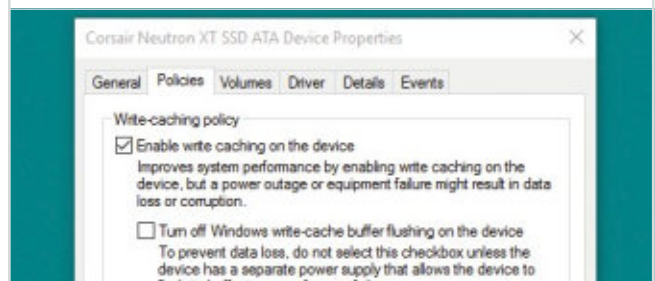
Although this is really not recommended for any PC to which others may have access, if you're definitely the only person that will use your PC you might want to set it so that you don't have to sign in whenever your computer wakes from sleep mode. You can do this in the Accounts > Sign-in options section of the Settings page. Note however that this will allow anyone who gets access to your PC to access your personal account. Do so at your own risk.



Enable Write Caching for Your Drives

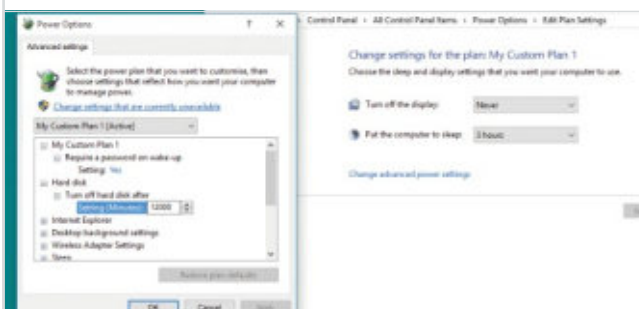
You can speed up the

performance of your storage devices by enabling write caching, which temporarily stores data in high speed RAM. It's enabled by default for internal drives but you can also turn it on for removable drives. Right-click on the Start button and open Device Manager. Expand the Disk drives list and double-click on the drive that you want to enable. Click on the Policies tab and you'll see "Enable write caching on the device" as a check box option. Check that it's enabled for all your drives.



Set "Turn Off Hard Disk After" to Never

While having your HDDs turn off after a set amount of idle minutes will help save energy, it can also cause your PC to slow down significantly while it waits for the HDD to spin back up when it's needed again. If you go to the Power Options section of the Control Panel you can adjust the idle time to never, or just increase the amount of minutes. Alternatively you could install an SSD, which is always at full readiness.



Keep Your PC Clean

Over time ordinary household dust can build up inside your machine

forming an insulating layer over vital cooling components and reducing their efficiency, which can have an impact on the performance of your system. Once every few months it's a good idea to open up the case and give it a good clean. Obviously disconnect it from the mains first, and be careful not to damage anything. Use a soft brush to dust the motherboard, and a compressed air can to blow dust off the cooling fins.



Troubleshooting Windows 10

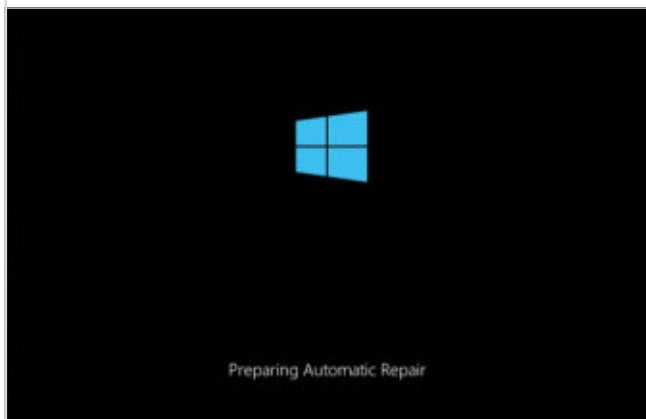
If you have a problem with your Windows 10 machine, your PC will need to go to the Advanced Startup Options menu, sometimes called the Boot Options menu. You may also need to boot into what's called Safe Mode. Hopefully this isn't something you will need regularly but we'll run you through it anyway.

How to Use Advanced Startup Options

Modern computers are complicated things and there's a lot that can go wrong. If your PC really isn't working correctly or seems slow, these helpful options will help you get it back on track.

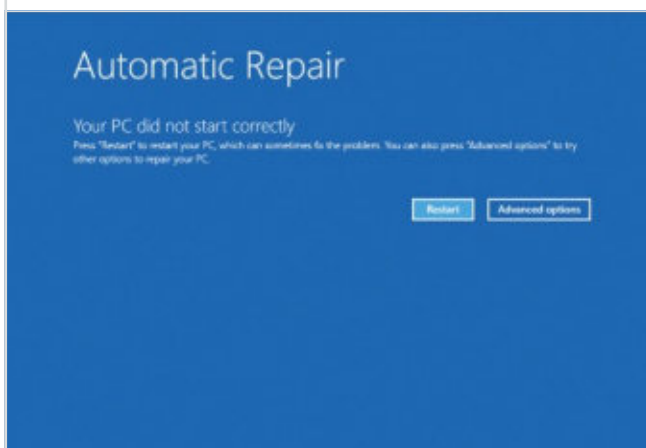
Step 1

You may be taken to the Advanced Startup Options menu. It will appear automatically if you have two consecutive startup errors on your PC. But you can get to it manually from inside Windows 10 by going to the Settings app > Update & Security, clicking on Recovery and selecting Restart Now underneath Advanced Startup.



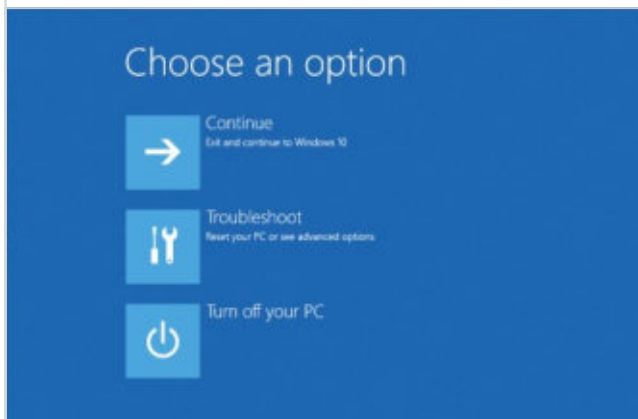
Step 2

If your PC didn't start correctly, you'll see this screen. It gives you the option of restarting and trying again, or clicking on Advanced Options. We're going to run you through what happens if you click on this second button – various options are available to you.



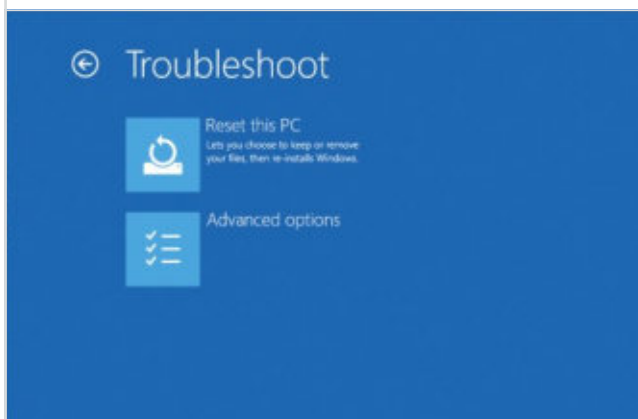
Step 3

You'll then see this menu, which is a little transitional for our liking – we're not sure why these options aren't on the screen you get after this in Step 4 (by clicking Troubleshoot). From here, you can also continue to boot up Windows 10 or you can decide to turn off your PC if you are going to take it to a repair shop, for example.

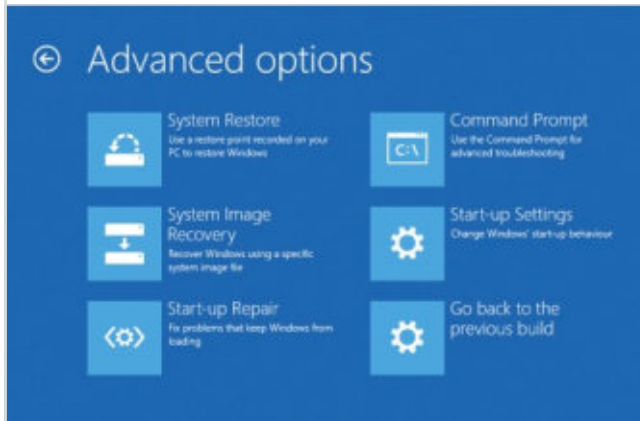


Step 4

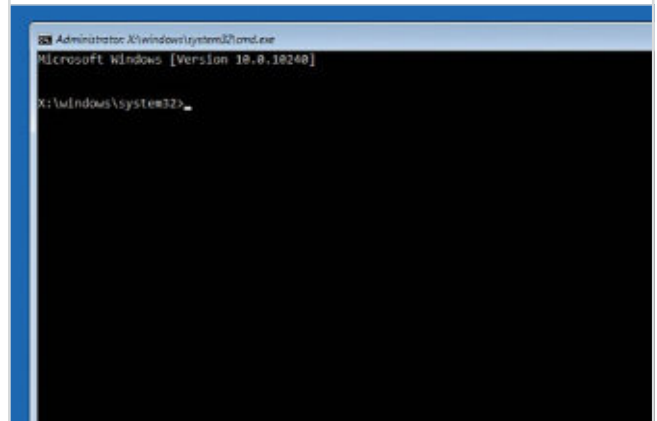
If you selected Troubleshoot, you get the option to Reset this PC. This is a little confusing in name, because it doesn't mean restart! It means resetting Windows to its factory settings (it reinstalls Windows, effectively). You can choose whether or not to keep your files, but we think this is a risky option. You have got your files backed up, haven't you?



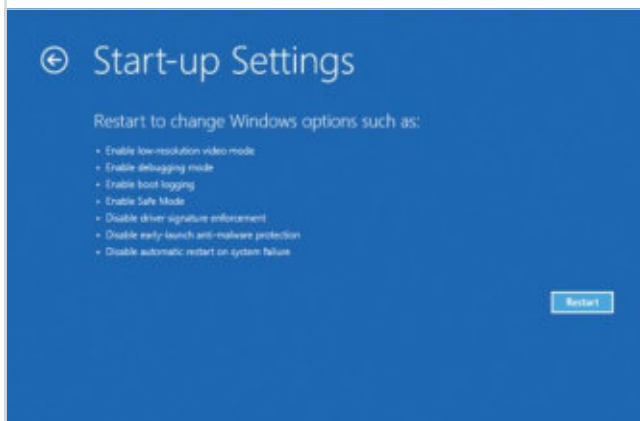
Step 5 Advanced Options is actually the menu that we want, and you probably will do, too, if there's something seriously wrong with your PC. It's almost like the previous steps were tests to see if you really did want to get here. You can try and repair the startup, or roll back using System Restore.



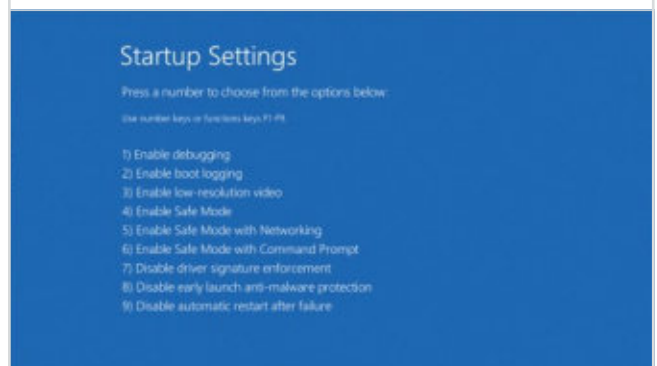
Step 8 If you need to boot from a particular drive, such as USB, you can do so by starting from it using the boot options in the Advanced Options menu. You can also access the command prompt should you need to do any diagnostic checks of your files, though this isn't a common thing to have to do.



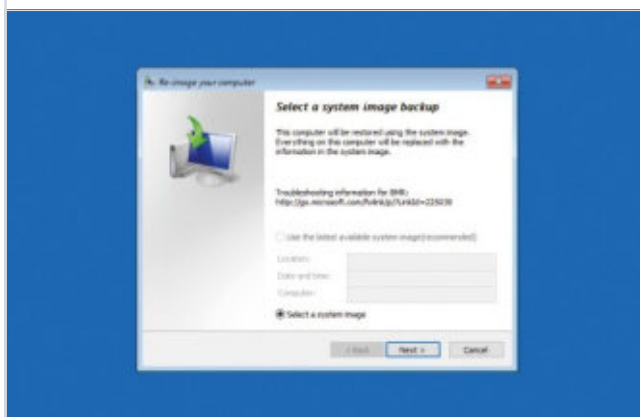
Step 6 If you select Startup Settings, you'll be shown this screen to ensure it is actually what you want (you can always go back using the Back button of course). From this you can instigate Safe Mode with or without networking access, as well as a low resolution video mode if you're having display problems.



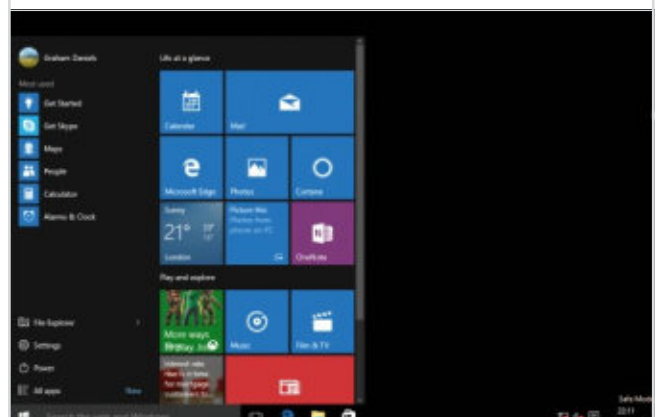
Step 9 When your PC boots after going to Startup Settings in Step 6, you'll see this menu. You need to press a number to boot your PC in a particular way. We'd always recommend seeing if your PC will boot into Safe Mode with Networking. If it starts up there without issue, it's probably a third-party software or driver problem rather than something with Windows itself.



Step 7 If you have a system image handy (a complete backup of your PC in a system image file) you can also restore it at this point. Anything you've created since the system image was made will be lost, so again it's a reason why you should back up your files.



Step 10 This is what Safe Mode looks like. As you can see, it's very much like the standard version of Windows 10, but it is lacking a little in its graphical finish. It's designed for you to troubleshoot what is wrong with your system – perhaps you need to roll back to an earlier System Restore point, for example.



Windows 10 Troubleshooting Tips

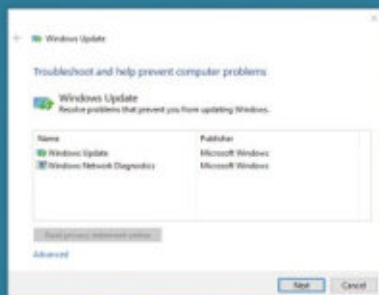
Windows 10 includes some useful tools for checking on and solving problems but sometimes you need to look a bit further and deeper. Occasionally you just need to go back to basics. These tips will help you solve some common problems encountered in Windows 10, particularly after installing the Anniversary update.

First Things to Check

If you're having problems with Windows Update, the Windows Update Troubleshooter might be able to automatically fix the problem. Go to Microsoft.com and search for Update Troubleshooter.

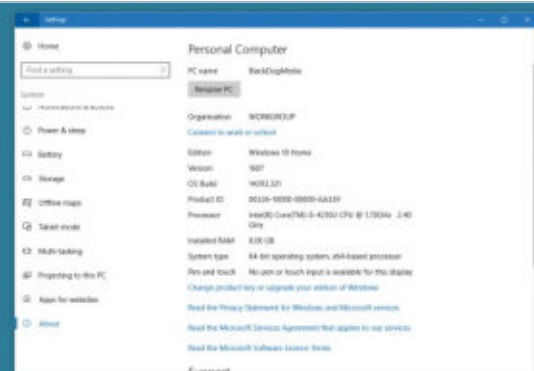
Windows Update Troubleshooter

Microsoft knows that things don't always go smoothly when updating and have provided a dedicated troubleshooting tool for use during this key task. If you're having problems with Windows Update, the Windows Update Troubleshooter might be able to automatically fix the problem. Go to Microsoft.com and search for Update Troubleshooter.



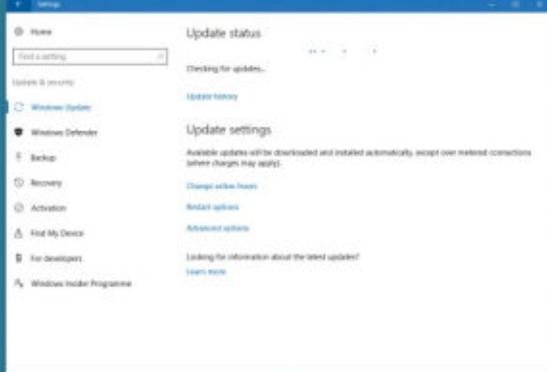
Checking System Spec

If you're having trouble installing or running a particular app or game, it may be that your PC hardware is not up to scratch. All commercial software will provide details of required and (sometimes) recommended specification needed to run it. You can check system spec at any time, just go to Control Panel and select System and Security, then System.



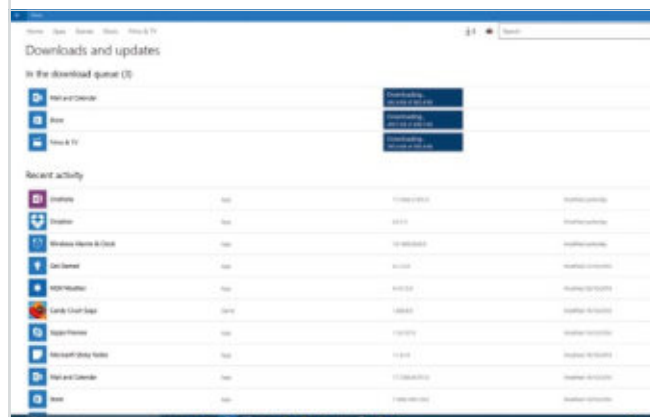
Check for Updates

Keeping your copy of Windows 10 up to date with the latest releases can really help to avoid problems before they happen. Press the Windows logo key and click Settings. Then choose Update & security > Windows Update and then select Check for updates. Install any available updates and restart your PC if required.



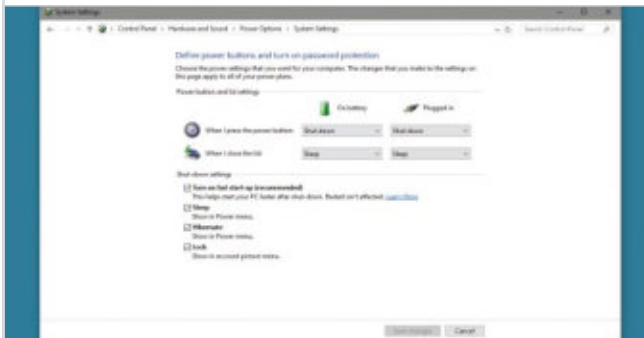
App Updates

If an app or program isn't working with Windows 10, particularly after the Anniversary update, try looking in the Windows Store for an update and if that doesn't work, delete and reinstall it. To check for available app updates on the store, click the user icon next to the search bar and select Downloads and Updates.



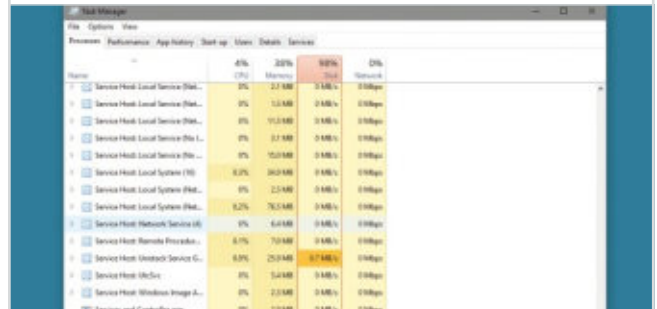
Slow Boot Fix

Like Windows 8 before it, Windows 10 uses a hybrid boot to enable fast boot times. It sounds great but can actually slow down boot for some users. Disable it by searching for Power Options in the Start menu and running the matching Control Panel applet, then in the left-hand pane click Choose what the power buttons do.



Non-responsive PC

Windows 10 has a completely different shell than previous versions. The Explorer.exe process is still at its core but there are a few additional components as well. If you click the Start button and nothing happens or if the entire taskbar refuses to respond to an interaction, open Task Manager (press Ctrl+Shift+Escape), find Windows Explorer in the task list and click the Restart button.

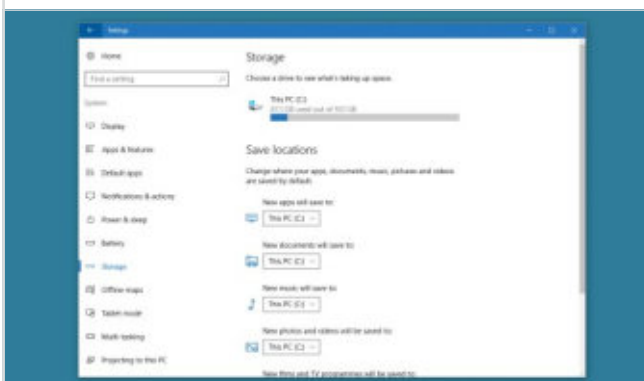


Fresh Installation Tool

If Windows 10 is really giving you problems and you have tried everything else to fix the issue, you can try using the Fresh Install tool. You will lose any installed apps but will keep your files.

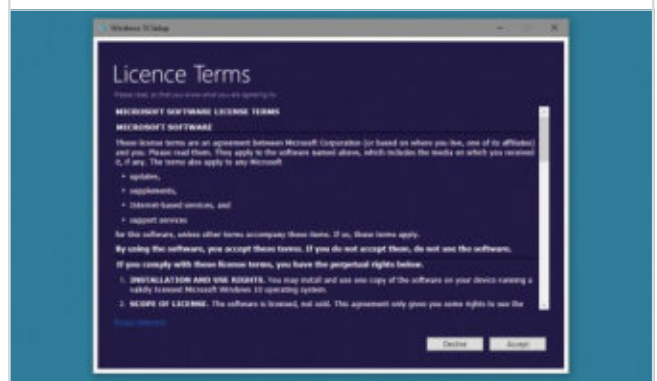
Step 1

First make sure you have the following: an internet connection to download the tool and the Windows 10 image and sufficient available data storage on the computer you are installing on. You need at least 3GB free for the download and the clean Windows 10 image file.



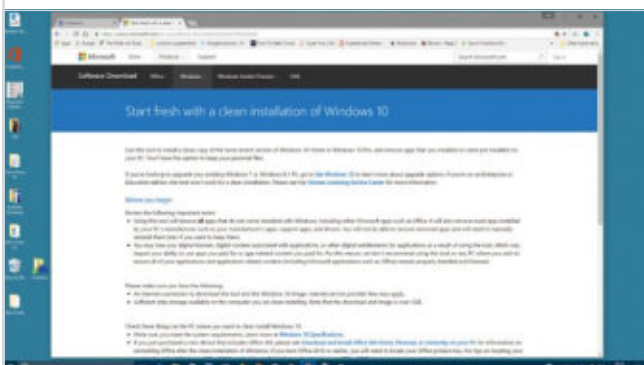
Step 3

BACK UP EVERYTHING you want to keep! Launch the tool and review and accept the licence terms. Choose what you want to keep. If you want to keep your personal files, choose the Keep personal files only option. Select the OK button to start the installation.



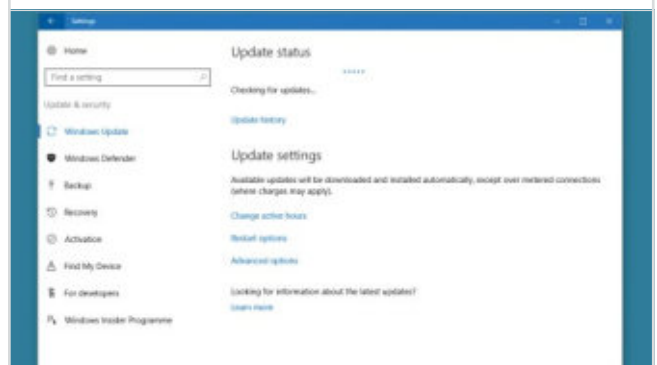
Step 2

Download the tool <https://www.microsoft.com/en-gb/software-download/windows10startfresh>. There is some advice on the download page about retrieving and reinstalling Microsoft software such as Office. It is worth checking this out if you are heavily reliant on that software.



Step 4

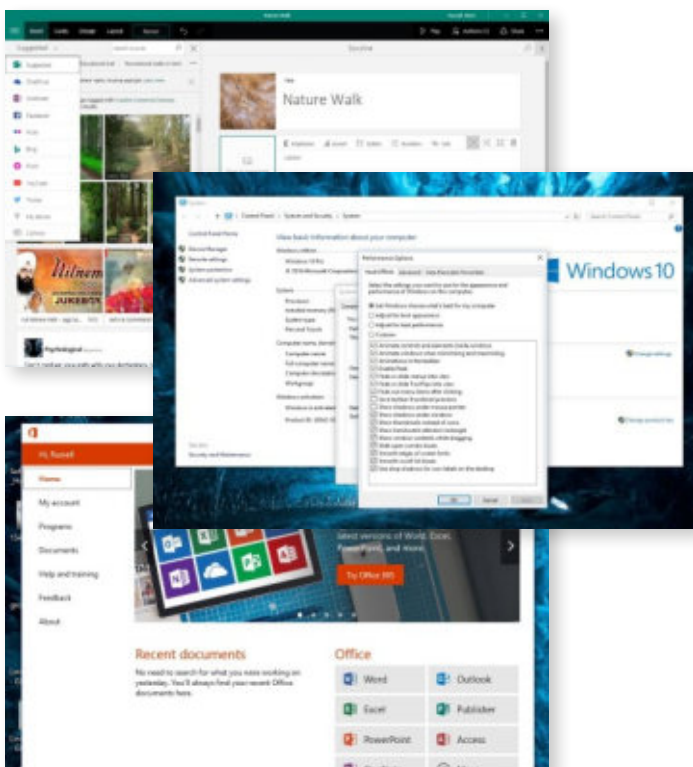
By using the tool, you may lose your digital licences, digital content associated with applications or other digital entitlements. Drivers may also be missing. If you experience any missing drivers after the clean installation has finished, go to Settings > Update & security > Windows Update.



Advanced Guide to Windows 10

The Advanced Guide to Windows 10 is all about giving you the tools to take full advantage of everything Windows has to offer! From maintaining and optimising your key hardware, to delving under the hood of the operating system with tweaks and mods. There is something here for anyone who wants to go beyond being able to send an email and browse the Internet.

Filled to bursting with expert advice and invaluable time saving shortcuts, the Advanced Guide to Windows 10 is the guide for helping you get more from the OS. Whether you have been using Windows 10 since its release or you have just bought your first PC, every page is full of useful advice, essential tips and all you need to take your computing knowledge to the next level.



Do More with Windows 10

Windows has never been more powerful, more useful or more usable. So why not take advantage of all it can offer? Learn how to improve security and boost performance, discover how to completely customise the desktop and menus, and get more from the best Microsoft OS released for several years.

Windows 10 Advanced Guides

Learn how to master the tools that make Windows 10 powerful. From removing bloatware and enabling the God Mode folder, to learning how to troubleshoot a problem and run Ubuntu on a Windows PC, there is something here for every user, whether you are just getting started or have been using the operating system for months.

Essential Tips and Tricks

Just about every page of the The Advanced Guide to Windows 10 contains useful tips and helpful hints. From ways to stay safe on the Internet and how to use hotkey, to sharing a photo with friends and customising your Start menu. So if you have never used Windows for anything more than browsing online, there is lots to discover.

Hardware Customisation

Learn the best way to add more power to your PC with a RAM upgrade, discover how to add a Solid State Drive to your machine and see the best way to keep the OS up to date without causing problems. The Advanced Guide to Windows 10 is about much more than making sure you are software savvy.

This Manual can be used with Windows 10:

Home	Pro
Enterprise	Education
Mobile	Mobile Enterprise
IoT Core	