Lesson 2

Understand the role of an operating system

- You've probably heard the term operating system before, but you might not be exactly sure what it means. - Essentially, your computer's operating system is the software that manages how you interact with the computer, how the programs on the computer use and access the computer's hardware, and is a big part of how your computer behaves and performs. You can think of the operating system as the master program that runs and manages all the other programs on your computer. It's the backbone of your computer and the most important program, because it controls everything that goes in and out of your computer, from allocating memory to programs, to copying files from one drive to another, to receiving commands from your keyboard and mouse, to telling you the time of day. You can't have a computer without an operating system. Usually the operating system comes pre-installed on your computer, but if you've had your computer for a few years, you may want or need to upgrade your operating system to the most current version that the operating systems manufacturer has released. Now, with that said, there are many different operating systems out there. On PCs, the most popular operating system is Windows. On Mac's the operating system is called macOS. These are probably the two most well known operating systems. You may have also heard of Linux, another popular computer operating system. And generally, any computer or device that runs programs, especially multiple programs has an operating system. Your mobile phone runs an operating system. For

example, Android devices run Android OS, and the Apple mobile device operating system is iOS. Now, in addition to the essential purpose of managing your computer and the programs you use, most operating systems like Windows and macOS also come with built-in programs called applications. Applications are also called apps, programs or software. These can be simple word processing applications, applications for managing your photos, applications for sending and receiving emails, and so on. In some cases, you can get by with the applications included with your operating system. For example, both Windows and macOS come with built-in web browsing applications for browsing the web, but you're also free to install and use applications made by other companies. Some applications can be downloaded for free from the companies that make them. Others have to be purchased. It really depends on what application we're talking about. It's also very important to note that you usually have to make sure you're downloading or purchasing the version of software that's made for your operating system. For example, if you're using Windows, you need to run Windows applications. If you're on a Mac, you need Mac applications. In many cases, software developers release both versions of their software, but there are many applications that only work with one or the other. Whether you're downloading software or purchasing at a store, you should always be able to find a section called system requirements that will let you know what operating system you need to run the software, as well as the minimum amount of RAM, hard drive space, and any other requirements.

Get to know the operating system

When you first start up your computer, the first thing to load is the operating system. For example, Windows 10 is the most recent version of the Windows operating system that comes pre-installed on many PCs and tablet devices. Here we'll explore the basics of navigating around an operating system using Windows 10, but many of these concepts carry over to other operating systems as well. When you start started the computer, you'll usually see a screen to log into your account on that computer. Generally, it's a good idea for each person using a computer to have their own account rather than sharing an account between multiple users. Individual accounts allow each user to keep their files and work secured and organized and let users personalize their experience on the computer. For example, one user could set the computer to display text in English while another user could set it to display in Spanish and because accounts are secured by passwords, neither user can see the other's documents or other files. To log into the computer, select your username, or sometimes you'll enter it manually and then type in your password. In Windows 10 when you set up your account, you also have the option of setting up a personal identification number or pin which you can enter instead of your password. So you'll either enter a password or a pin in this case, I'm entering a password and I'll press Enter on my keyboard and that's going to log me into the computer. Once you're logged in, the first thing you see is your computer desktop. Similar to a real physical desktop, your computer desktop is where you store files you're

currently working with. In most operating systems, you can personalize the look of your desktop by changing the background image, sometimes called the wallpaper or by changing the colors. At the bottom of the Windows 10 desktop is the task bar, which is an essential tool for working with the Windows operating system. Depending on how you have it set up, in the task bar you can see what apps are currently running, what the current time is, what appointments are on your calendar and so on. On the far left of the task bar, you'll find the Start button. Clicking it opens up the Start menu and this is where you can find all the applications installed in your device. This is also where you'll find the buttons to log off, restart and shut down the computer. For now, let's click outside the Start menu to close it without selecting anything. Next to the Start button is the search box where you can search for applications by name or search for files and documents on your device. Using the search box can be a lot quicker than manually looking for applications in the Start menu. Just start typing the name of the application or document you want to work with and Windows will display the search results as you type. For example, if I wanted to quickly open the calculator app, I could just start typing calculator, there it is, and I can just press Enter on my keyboard to open that up. Next to the search box, you'll see icons for applications that are currently running or pinned to the task bar. Pinned applications are apps that you can place in the task bar to quickly access again so you don't have to dig through the Start menu to find them each time you want to open them. Applications that are currently running have a line underneath them so you can easily tell if they're in use as you can see here under the calculator icon. To pin an

application to the task bar, place your mouse cursor over it and then click the right mouse button on your mouse or pointing device, this is referred to as right click, which often brings up a menu containing several options. In this case, I'll choose to pin the calculator app to the task bar since I use it a lot. So now even if I close the calculator app by clicking the X button here in the upper right corner, notice this icon stays in the task bar. We no longer see the blue line under it because it's not running, but I can easily click to open the calculator app from here now. Also here within the pinned and running apps is File Explorer. Clicking that opens up a window you can use to browse the files on your computer and I'll just close that. The last section of the task bar is here on the right. Here you usually see the date and time along with various other icons depending on how the computer's task bar has been customized. Clicking on icons can give you more information about the computer. For example, clicking on the clock, displays the calendar, clicking on the network icon shows you the status of your network connection. Clicking this arrow here reveals other icons that may be hidden so the task bar isn't cluttered with too many icons at once. So for example, from here, I can click the speaker icon and that allows me to adjust the volume of the computer speakers. So that's the task bar in Windows. Now, when you're done using your computer, it's usually a good idea to log out of your account or to shut down the computer if you don't need to leave it running. To do so, click the Start button. If you just want to log out, but leave the computer running, for example, if someone else needs to log into their account to use the computer, just click the user icon at the top here, and then choose a Sign Out. That will log

you out of your account, but leave the computer running so someone else can sign into their account. Ultimately, you can click the power button here and from here, you can shut down or restart the computer. Choose to Shut Down if you want to shut down the computer so it's not using any power. And restart shuts down the computer and immediately starts it again. Sometimes restarting can fix issues that may crop up while using the computer. Again, we've been looking at the Windows 10 operating system in this video, but many of these concepts like searching for applications, accessing settings and logging out and restarting apply to other operating systems as well.

Organize files and folders in Windows 10

One of the most important concepts to understand when working with computers is the system for organizing, storing, and locating your files and applications. In this context, the term file, it refers to a single item, such as a word processing document, a photo, a video clip, a song and so on. Applications are the programs that run on your computer, which often use, interact with, or create the files stored on your computer. Another term you'll frequently hear is folder. A folder is sometimes referred to as a directory, but I think folder makes more sense because it's easy to understand the concept of storing files within folders. Again, we're using the Windows 10 operating system here for these examples, but the concept recovering applied to other operating systems as well. Here in

Windows 10, I'm going to click the file Explorer icon, and that opens up a new window where we can navigate and explore the contents of the computer. But in this case, let's say I want to create a new folder to store some of my business documents. Now in each account, you already have some folders created, which you can see over here in the left sidebar. Let's click documents, which is a good place to start my business documents. You can see I already have a couple of files and folders inside the documents folder, but to stay organized, I'm going to create a new folder for my business-related documents. There are a couple of ways to do this, but for this example, I'll click the home tab, here at the top of the window and then select new folder. And there it is. By default, it's called New folder, but notice the name is highlighted. Meaning if I start typing while the text is selected, I can give it a more meaningful name. I'll call this folder business and I'll press enter. So there's my new folder. I can open it by double-clicking it. And as you'd expect, it's currently empty because we just created it. Now, just like how there are several ways to create a new folder, there are several ways to add files to that folder. For example, if I were working in Microsoft Excel on a spreadsheet, I could save that spreadsheet and choose to store it in this folder. Alternately, I can click the home tab again, click the new item menu, and here I'll find options for several types of files I can create. So for example, I want to create a text document. So I'll select that option, and that instantly generates a new text document inside this folder. Just like when we created this folder, the generic name of this new text document is highlighted, so I can give it a better name. Now, if you don't start typing and you click outside

that name, you'll see that the highlight around the text is removed. I can still rename this file though. I just need to click it once to select it, pause for a second and then click it again. And you can see the name highlights again. The reason for pausing between clicks is that if you click twice too quickly, that's considered a Double-Click which opens the item instead of highlighting its name. So let's say I want to use this document to keep some ideas for a book I'm working on. I'll call this Book Ideas and I'll press return. And now if I want to start working on this file, I can double-click it, which opens it in the default text editing application. And I can start typing out some of my ideas when I close this file, I'm prompted to save it so I don't lose my changes. I'll click save. And now I've created, edited and saved a text document. But now that I think about it, this doesn't really belong in this business folder. Instead, I want to store this in a folder for my book ideas. So I'll click the back button to go back to the main document folder, and here I'll create a new folder for my book ideas. Another way to create a new folder is to right-click within the folder and then choose new folder. There it is and I'll call this books. Now, I need to move that book ideas document I created in the business folder into the books folder. Again, there are multiple ways to do this. For this example, let's go back into the business folder where that file currently is, and now select it by clicking it once, and I'll go to the home tab and here I'll choose move to. This gives me a list of folders on my computer that I may want to move this file to, but I don't see that new books folder I just created. So I'll browse for that folder by selecting choose location. This lets me navigate my entire computer to locate the folder I need. I'll start by opening up my

user folder. Here I'll find documents and within documents, here's that new book's folder I created. I'll select that and I'll choose move. And just like that, the file disappears out of the business folder. And if I go back to the main documents folder and look in books, there's the text file. Now, another way to move files is to simply drag them where you want them to be. For example, if I want this file stored in my main documents folder, I can simply click and hold down on my mouse button and then drag it to the document folder listing here on the sidebar. It says move to documents I'll release my mouse button, and if I go back to the documents folder, which I can do by clicking on documents up here this time, you'll see book ideas is now sitting here in the main folder. But of course it really does make more sense to leave it in the new book's folder here. So I'll drag it back in like so. Now, if you no longer need a file, you can always just delete it. If I want to get rid of this Book Ideas file, I can just select it, and then under the home tab I can choose delete, and it's gone.

Access system features with right-click

An essential part in learning to become proficient when it comes to using a computer is to learn the right click. The term right click refers to the button found on the right side of a mouse with two or more buttons. Generally, if you're right handed, you'll click the left button of the mouse the majority of the time with your right index finger. This is the mouse's main button that allows you to select items, double click things, and make selections. But both the operating system, and most applications you'll use have special shortcuts, and menus that will appear

when you click items with the right mouse button. For example, left clicking this file on my desktop, lets me select it. But right clicking it opens up this menu. What do you see in right click menus sometimes called contextual menus depends on the item you're clicking. For this file I see options to open it, to share it, or to delete it. So if I choose delete, that sends it to the recycle bin. I can double click the recycle bin with my left mouse button to view its contents. And you can see I have three items in here. Now, as we learned earlier, items in the recycle bin can be moved back out in case you didn't mean to delete them. One way is to drag them back into the folder they came from. But you can also right click the files in the recycle bin. And those one of the options here is restore. Selecting that sends the file back to the folder it came from, which is much faster than opening both the folder, and the recycle bin and dragging the file from one to the other. Right click options are often designed to save time. For example, if you want to permanently delete the items in the recycle bin, you could open it up, click the recycle bin tools tab, and from here choose to empty the recycle bin. But another and faster way to do this, is to right click the recycle bin, and choose empty recycle bin. This way you don't even have to open up the recycle bin first, which can again save time if you're certainly you want to empty it before checking its contents. Here, I'll click yes. And now my recycle bin is empty. The point is that you should get in the habit of trying to right click items just to see what shortcuts software designers may have hidden. Oftentimes you'll find shortcuts to commands and actions that may otherwise involve navigating through several menus or dialog boxes. Now incidentally if you're left handed and need to

switch the actions of the left and right mouse buttons, you can right click on the desktop and choose personalize. That takes you to the personalization area of your system settings. Click the home icon to go to the main settings window, and then click devices. And here I'll select mouse. You can switch between your left and right mouse buttons as your primary button. So if you're left handed, you'll set the right button as the main mouse button, and the left button then becomes the button for revealing special menus. Again, right-clicking items is an important concept to learn. Just take some time when working in various applications to right click a few things, and see what options may be available. More often than not you'll find and learn some great time-saving shortcuts.

Manage and organize windows

So what exactly does the term windows refer to in regards to working with computers? Essentially, any program or application that we open or view in the operating system is a window. It's what allows us to see what's going on in that application and interact with it. For example, if I come down to the task bar and open up the File Explorer, that opens a window that I can use to browse the contents of my computer, which is the purpose of File Explorer. Or if I open up this text editor application, this is that application's window. And when I open up the calculator app, that opens up in its own window as well. So again, we refer to the area in which we view and interact with apps and the operating system as windows. And that term applies whether you're working with Microsoft Windows 10,

macOS, or some other operating system. Most windows share common properties. For one, you can move them around on your screen by clicking and holding down at the area at the top and just dragging them around. When working with multiple windows, clicking any one of them brings that one to the front so you can work with it. And the other windows stay open behind it. Let's close the text editor with the X button, and I'll close the calculator as well. So notice these three buttons in the upper right hand corner of the windows. We just saw to close or quit a window, we click the X button. Now, sometimes when working in certain applications, you may need or want the window to take up the entire screen so you have more room to work in the window. To do this in Windows 10, just click this middle button called the maximize button. And now this window fills the entire screen. If that turns out to be larger than you want it to be, you can return it to its previous size by clicking what is now called the restore button. You can adjust the size of windows by placing the mouse cursor over the top, bottom, left, or right edge. So you see this double-headed arrow, and then click and drag to adjust the height or width of the window. Or you can place your cursor over a corner to get this diagonal double-headed arrow and drag to adjust the height and width at the same time. Now, there may be times when you're working with multiple windows and you want to declutter a bit, but you also don't want to completely close a certain window because you want to maintain quick access to its contents. In those cases, click the third button, which is the minimize button. That minimizes the window to the task bar. To restore a minimized window, just click its icon in the task bar. If you have more than

one window in a certain app minimized, for example, if I open up the Recycle Bin window and I minimize that along with the File Explorer window, notice when I roll my mouse over the File Explorer icon, I get a preview of the two minimized windows, and I can click the one that I want to restore. I'll just go ahead and close that along with the Recycle Bin. Now, you'll often work with multiple applications and therefore multiple windows simultaneously. Let's say I need to be working with both the Microsoft Edge web browser and Microsoft Word at the same time. There's a very easy way to make sure you can see both windows at the same time without them overlapping each other. First, let's open up Word. I'll do this by clicking in the search bar and typing Word. I can see it's highlighted, so I just need to press Enter to open up the app. And I'll double-click to create a new blank document. I'm going to click the restore button here in Word to make it its own floating window. But now I'm going to click and hold its title bar and drag it to one side of my screen until I see this highlight appear, and I can release my mouse. That snaps the Word window to the left side of the screen. Now let's open up Microsoft Edge. And again, I'll just search for Edge, and I'll press Enter to open it up. And there it is. Again, I'll click the restore button. That allows me to drag the window around. And this time I'll drag to the right until I see a highlight. And when I release my mouse button, it snaps to the right, and I can see both the Word and Edge application windows at the same time, and it's easy to click back and forth between the two of them to work with the one I need to work with without hiding the other one. So for example, I could be doing research in Edge for a report that I'm typing in Word. And this continues to work

if I need to access more windows. For example, I'll open up File Explorer again, and I'll drag it to the right. That makes it fill half the screen so I can work with Word and File Explorer together. But if I need to work with Edge again, I just click its icon in the task bar, and it comes to the front of File Explorer, maintaining its size. So I could continue to switch back and forth between Edge and File Explorer as need be. Knowing how to work with windows is essential to make it easier for you to get things done on your computer.

Customize your desktop

Operating systems are highly customizable, making it easy to personalize your experience to be more suited to everything from the way you work to your personal taste and images and colors. Let's take a look at some of the most popular ways to customize the look and feel of the Windows 10 operating system. I'll click the Start button and select Settings. And here in the Settings window, select personalization. This is where you'll find the majority of settings for personalizing your Windows 10 experience. For example, to customize the look of your desktop, make sure background is selected. You can see I currently have a solid color selected for my background. And that lets you select any of these colors to instantly apply them to your desktop. Picture lets you choose from built in Windows photos, like the ones you see here. Or you can click Browse to choose from one of your own photos from somewhere on your computer. And slideshow lets you select a folder of photos on your computer and it will randomly display those photos as your background.

You can choose how often the photo changes with this menu here. Personally, I prefer a solid color, so I'm going to switch back to that. But you're free to customize your own background however you like. The color settings where you can customize the colors of the operating systems various elements. So here I can select from a variety of colors. So I can switch from blue to red. And this preview image at the top gives you an idea of what will be affected by your choices. But I can also see the changes right away. Notice if I come down to my Start button, it's already red. And many of the items within the start menu are also highlighted in red. If I scroll down a bit under default app mode, I can choose light or dark, basically letting me choose the overall mode for the operating system. So if your eyes are sensitive to bright lights, you might want to choose the dark mode. So using the computer screen for extended periods is less straining. I'll just switch back to light for now. If you find it difficult to find a color combination that works for you, try the theme settings. Themes or groups of background images, colors, sounds and so on, that have been designed to work well together. Here you'll find some pre installed themes that you can click on, and you can try a few of these out. And you can see how that affects the look of the operating system. You can search for more themes in the Microsoft Store, where it says get more themes in Microsoft Store, or you can even further customize the theme. So for example, if you like everything about the theme except the color scheme, you can click the color option and go back and select a different accent color. I'm going to go back to themes and set that back to my original theme for now. Now lastly, you can also customize the taskbar. Within the

settings you can lock or unlock the taskbar to prevent accidentally moving or resizing it. Under automatically hide the taskbar you can enable this option to hide the taskbar hide from view until you move your mouse to its location, that can give you a little more space to work with. You can also choose use small Taskbar buttons, which gives you more room if you've pinned a lot of applications to the taskbar. And under taskbar location on screen, you can even move the taskbar to other locations like the left, right or top of the screen, which you might want to do if an application you're working with has menus or buttons at the bottom of the screen, and you don't want to accidentally click the taskbar while working in the app. So as you can see, it's pretty easy to customize Window 10 to personalize its appearance to work best for you.

Keep your operating system up to date

An important part of making sure your computer and its programs continue to run smoothly is to periodically check for and install updates to your operating system. For example, both Microsoft and Apple frequently release updates to their Windows and Mac OS operating systems, often fixing bugs and adding new features. To check for updates in Windows 10, go to the start menu, to settings, and select update and security. Make sure Windows update is selected and then click check for updates. As long as you're connected to the internet, Windows will check for system and security-related updates. If any updates are available, you'll see the progress of them being downloaded and you'll have the option to install them, which

often involves restarting your computer. So it's a good idea to make sure you're not working in other applications or on any projects when you're checking for and installing updates. You can see I currently see this message saying that I'm up to date, meaning there are no system or security updates available, but notice there is a feature update available to my version of Windows 10. And if I'm ready to install that, I can click download and install now to begin that process. And you can see now we'll go through the process of updating Windows. But again, if you don't see any available updates, it means your computer is already up to date. But you can still check back here periodically to see if any updates have been released. Again, it's a good idea to install updates to make sure your computer continues to run smoothly.