

**Draft**  
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# Windows<sup>®</sup> 7

Microsoft Windows 7 Intermediate Training Manual



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## Section 1: Working with Windows 7

**In this section, you will learn how to:**

- Recognize different parts of the new interface
- Learn about the different versions of Windows 7
- Use the Aero Desktop enhancements
- Use expanded Windows key shortcuts and other keyboard shortcuts
- Use different parts of the Start Menu
- Use Jump Lists
- Use Libraries
- Open and use the Recycle Bin
- Restore deleted files
- Use, add, and customize gadgets

## Lesson 1.1: Windows 7 Basics

Welcome to the Windows 7 Ultimate Intermediate Courseware! In this manual we will expand on the concepts that were introduced in the Foundation courseware by exploring how to customize Windows 7; taking an in-depth look at the more advanced programs and features of Windows 7; and learning how to manage files, folders, and libraries.

In this lesson, we will discuss more of the advanced new features of Windows 7, review the Aero Desktop features, and introduce new keyboard shortcuts that can be performed with the Windows key.

Chances are if you are reading this Intermediate manual, you have used Windows XP and/or Windows Vista in the past. There is always quite a buzz when a new version of Windows is released, and we are very pleased to report that you are in for a real treat with Windows 7!

If you've used Windows XP in the past, there are a number of interface changes you should know about that will be covered in this lesson. Fortunately, these features are easy to pick up and are, in our opinion, very well thought out. If you have used Windows Vista in the past, much of the interface and features will feel very familiar, but are different in a few key areas. Let's go over some of the biggest changes and enhancements first.

## What's New in Windows 7?

### Themes

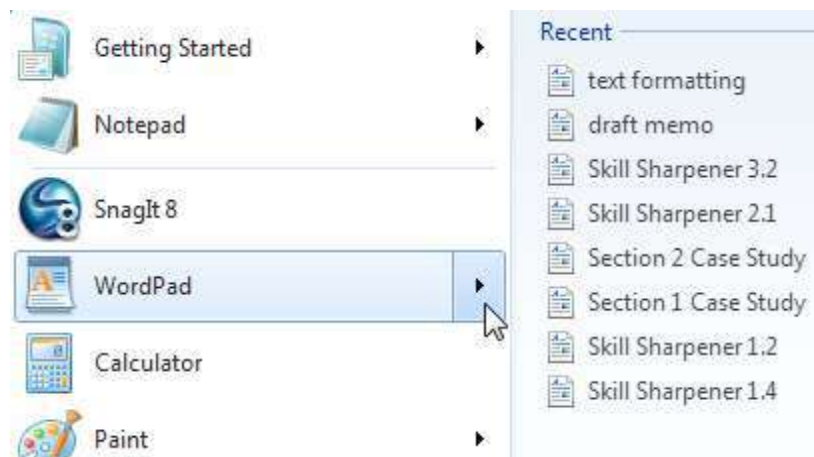
Windows 7 has enhanced themes that let you customize the color of windows and sound sets. There are a number of beautiful new backgrounds featuring both whimsical and real locations from all around the world.

### Gadgets

Windows 7 has dropped the gadget sidebar used by Windows Vista. It was determined that the sidebar took up too much space on the desktop. Instead, gadgets can now be placed directly on the desktop and used independently.

### Revamped Start Menu

The Start menu has gotten a bit of a face lift. You can pin any program icon to the Start menu and quickly access the programs you use the most. Some programs will also display an arrow (>) beside their name and let you access recently used documents:



These program-specific file lists replace the Recent Items list previously used in Windows Vista.

### Libraries

Windows 7 uses a new form of file management, the library. These libraries are an easy way to view files and folders that are scattered around your computer. Libraries also save a huge amount of time over making a folder full of shortcuts!

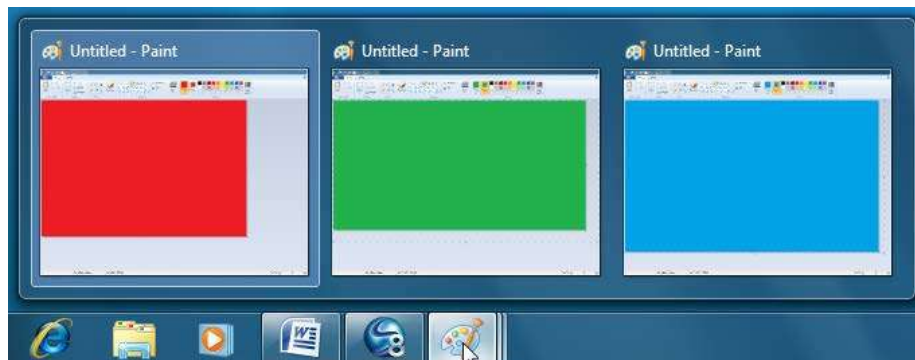


## New Taskbar

The taskbar is probably the most noticeable change in Windows 7. It is a bit taller than previous Windows taskbars to incorporate the new touch capabilities of Windows 7. Programs are also displayed differently. When a program is open, you only see the program's icon appear. Multiple instances of a program make the icon look like a stack of icons:



To switch between program windows, hover your mouse over this stack and choose the window you want to view:



The taskbar also incorporates a new feature called a Jump List. Right-click a program icon or try to click and drag the icon off of the taskbar to view this list of common tasks for the program:

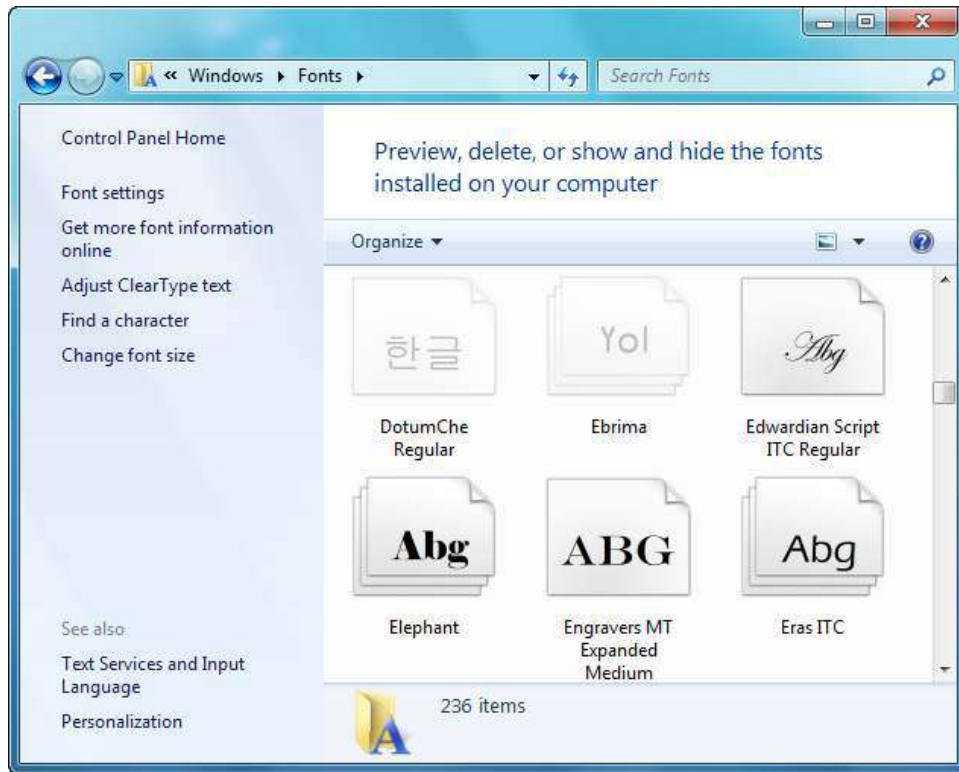


### **Aero Desktop Features**

These new features incorporate the ability to navigate through your windows much faster and easier than using traditional minimizing and resizing. We will cover Aero Peek, Aero Shake, and Aero Snap later in this lesson.

### New Font Management Interface

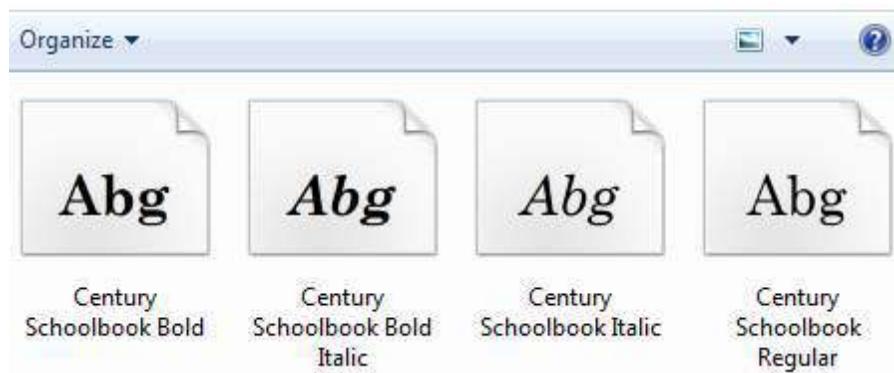
The Control Panel offers new and improved ways to manage the fonts on your computer.



You can preview fonts in real-time and double-click a stack of fonts to view all fonts in that family.

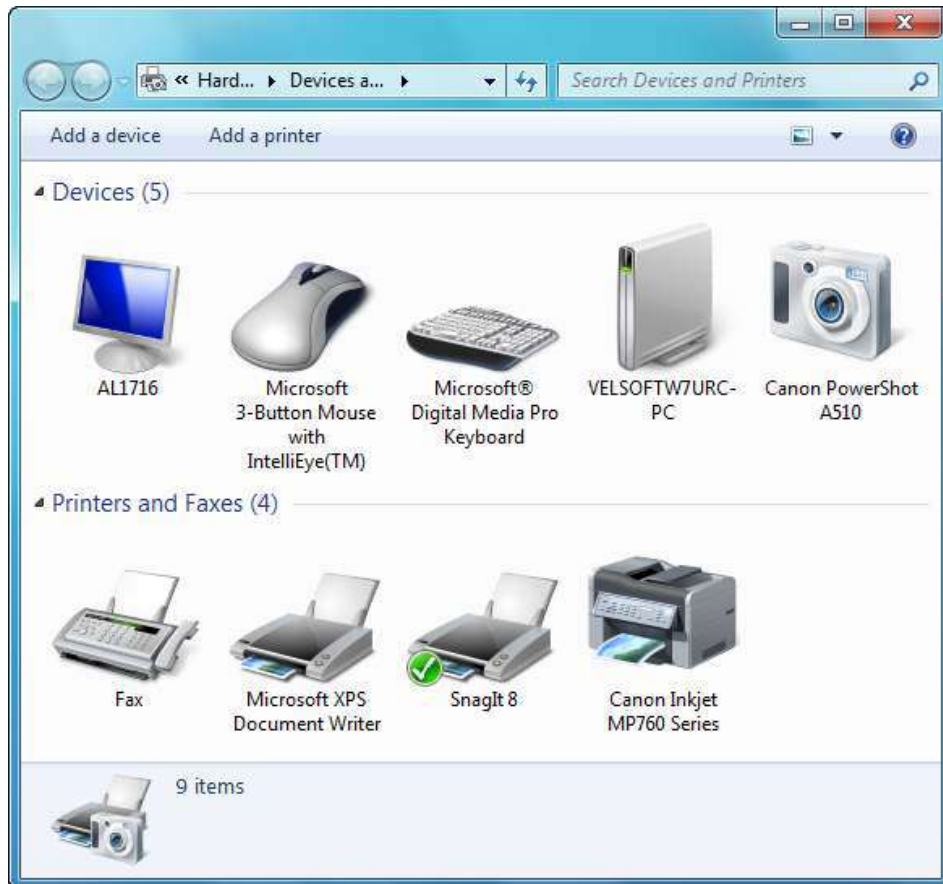
#### Font family details

Preview, delete, or show and hide the individual fonts in this font family.



### Devices and Printers

View all devices hooked up to your computer in one location. This allows users to directly view the devices that are plugged into the computer:



### Device Stage

This is a kind of extension of the Devices and Printers window. Multi-function devices such as digital music players and some cell phones can be interacted with using this window:



### Direct X 11 and Gaming Performance

Next-generation games and graphics will be supported by Windows 7. Windows 7 is also reasonably fast for an operating system that relies so heavily on fancy graphics. You will likely find game performance a bit faster in Windows 7 over Windows Vista.

In addition, the Windows Experience Index (system score) has been scaled from a maximum of 5.9 to 7.9.

### **Better Support for Solid State Drives (SSD)**

A traditional hard disk contains a collection of spinning platters with a moveable reading head which can read/write/erase data. Solid State Drives are comparable to fast, large capacity USB flash drives. They have no moving parts and are therefore silent and perform better than their traditional counterparts.

Windows 7 includes enhanced support for these SSDs, which cannot use traditional defragmentation techniques.

### **Increased Performance**

Overall, Windows 7 is faster. Our test machine features a 64-bit dual core processor and 4 gigabytes of RAM, and we noticed a considerable difference in speed when using Windows 7 compared to Windows Vista. When using programs and the interface, there isn't really much difference; Windows 7 just happens to do things a bit quicker. However, when starting or shutting down the computer, there is a huge difference. Our test machine using Vista takes about 40 seconds to shut down. With Windows 7, this time drops to a mere 8 seconds!

What all this means is that you won't need the latest and greatest hardware to run Windows 7 effectively. In fact, you probably won't have to change a thing on your computer yet will still notice places where Windows 7 is faster compared to Windows Vista.

### **Revamped Windows Media Center**

Windows Media Center is a program designed to view digital media on a television. This includes watching movies and DVDs, viewing pictures, and playing music. If your computer features a TV capture card, you can watch, pause, and record live television. The new edition of Windows Media Center also features support for digital TV signals and a few interface enhancements that make using your computer for digital media easier than ever.

### **Action Center**

The Action Center is a new, all-in-one location where you can view and address issues that are important to the safety and security of your computer. You can change the status of an antivirus program, scan for spyware/malware with Windows Defender, use the Backup and Restore Center, and more.

### Improvements to WordPad, Calculator, and Paint

WordPad and Paint have long been of the Windows family of operating systems and have finally gotten a well-deserved facelift! They both use the new Ribbon interface used by most of the Microsoft Office 2007 programs and all Office 2010 programs.

We also think you'll be very impressed with the new features of Calculator. There are two new working modes (Programmer and Statistical) as well as a unit conversion tool and worksheets for calculating mortgage payments and fuel economy.

### XP Mode

Windows XP is arguably the most popular and reliable version of the Windows operating system. Windows 7 uses Windows Virtual PC to let you use a fully-contained version of Windows XP inside Windows 7. This will allow you to run older (legacy) programs that may not be usable with Windows 7.

### Windows 7 Versions

Many people felt that Windows Vista was available in too many versions (five). Windows 7 is instead available in three different versions, and the advantages of going from one version to another are very specific rather than simply taking a subset of programs and features from the Ultimate version.

Version	Description
<b>Home Premium</b>	The core elements of Windows 7 are included here, including Windows Media Center and all the standard programs. For the vast majority of people, this version offers everything they should need.
<b>Professional</b>	Home Premium features + XP Mode, business networking, and automatic backup capabilities.
<b>Ultimate</b>	Professional features + BitLocker drive encryption and multi-language support. CSULB's Windows 7 courseware has all been created with Windows 7 Ultimate.

## Aero Desktop Features

Windows 7 features some window manipulation tools that are new to the Windows family. Once you start using these new features of Windows Aero desktop, you might find it hard to go back to anything else!

To maximize a window, you can click and drag the title bar of any window to the top of the screen. Windows will automatically create the outline of a window around the entire screen. Release the mouse button to maximize the window:



If you commonly use two windows at the same time, it can be a bit tricky to manually resize the windows and see both of them at once. Now it's much easier! Click and drag the title bar of one window to either the far left or far right-hand side of the screen. Windows will snap the border around  $\frac{1}{2}$  of your screen; release the mouse button to apply this change. This is Aero Snap:



Click and drag the title bar of another window to the other side of the screen and Windows will automatically fill that side with the other window.



If you have several windows open at once and want to hide all but one of them, click and hold your mouse button on the title bar and shake your mouse back and forth. This is called Aero Shake. All of the other windows will minimize. For example, let's assume we wanted to view only the Internet Explorer window (behind all the other windows):

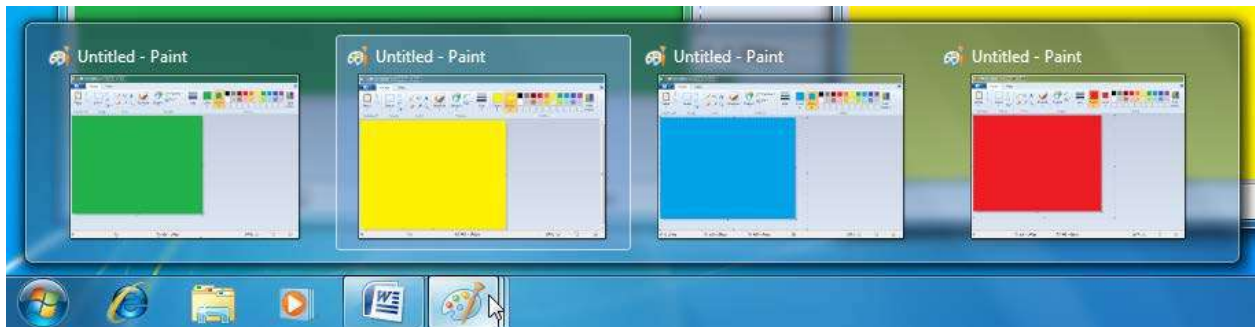


Click and shake its title bar:

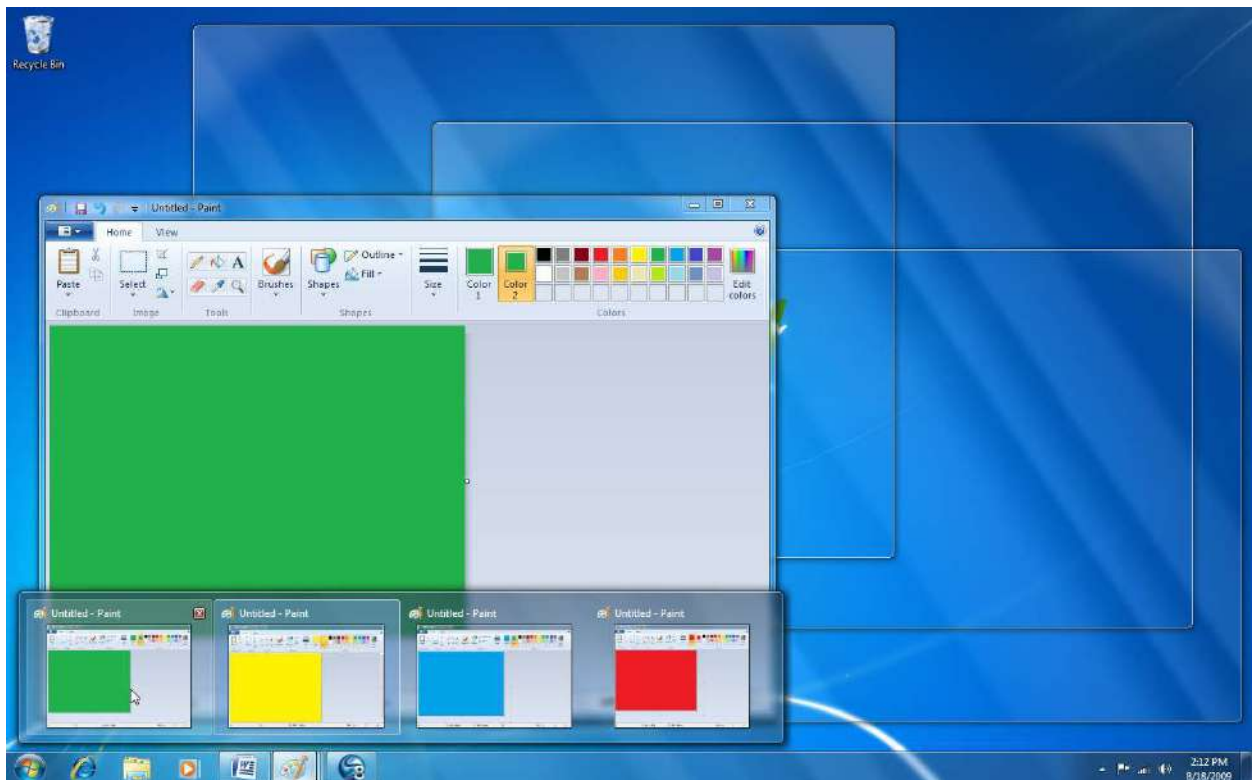


All other windows will minimize. To bring the other windows back, shake the title bar of the program you used Aero Shake with in the first place; the other windows will return.

If you have several windows of the same program open at once, the icon in the taskbar for that program will appear to be “stacked” with several of the same icon. Imagine you had four Paint windows open. Hover your mouse over this stacked icon to see a thumbnail view of each window:



If you then hover your mouse over a particular window, all other windows will become transparent using Aero Peek. If we wanted to look at the green window, just point to it:



Now you can click the window to bring it to the front, or close it using the thumbnail’s red X.

## Windows Key Shortcuts

Keyboard shortcuts are something you will likely use as you become more comfortable and proficient with Windows. You likely already know the shortcuts to Cut, Copy, and Paste (Ctrl + X, Ctrl + C, and Ctrl + V, respectively), and might use the shortcut to close a window (Alt + F4).

Windows 7 includes a number of new shortcuts that use the Windows key on your keyboard:



Command	Action
<b>Win + Up</b>	Maximize
<b>Win + Left</b>	Snap to left
<b>Win + Shift + Left</b>	Jump to left monitor
<b>Win + Home</b>	Minimize/Restore all other windows
<b>Win + Shift + T</b>	Cycle backwards through taskbar items
<b>Win + G</b>	Bring any open gadgets on top of other opened windows
<b>Win + X</b>	Open the Mobility Center (for laptop options)
<b>Win + + or – key</b>	Zoom in or out
<b>Win + Down</b>	Restore/Minimize
<b>Win + Right</b>	Snap to right
<b>Win + Shift + Right</b>	Jump to right monitor
<b>Win + T</b>	Focus on the first thing in the taskbar; press T again to cycle through items
<b>Win + Space</b>	Use Aero Peek to view desktop
<b>Win + P</b>	External display options for multiple monitors (mirror, extended desktop, etc.)
<b>Win + a number key</b>	Launches a new instance of the application in the nth spot of the taskbar
<b>Win + Tab</b>	Uses Flip3D to quickly switch between open windows

## Lesson 1.2: Working with Windows 7

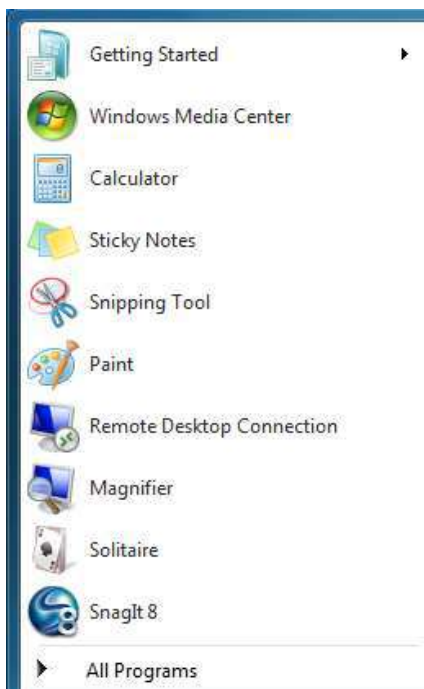
In the last lesson, we introduced a number of new features in Windows 7. Now let's talk a bit more about the Start menu, Jump Lists, and libraries.

### The Start Menu

The Start menu is the primary gateway to everything your computer has to offer. All installed programs can be accessed here, you can view different locations on your computer, and you can use it to search for files.

Open the Start menu by clicking the Start button in the bottom left-hand corner of your screen. Let's take a moment to go over the different parts of the menu.

### Program Listing



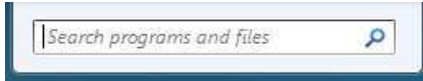
On the left is a list of programs that have been recently used on your computer.

You'll notice that the Getting Started item has an arrow (>) beside it. Click this arrow to launch a task specific to this program or open a file that was recently modified using the program.

At the bottom of the list is the All Programs Link. If you click this item, a list of all programs that are installed on your computer will appear. Click a program name to launch that program. Click any folder to view the contents of that folder.

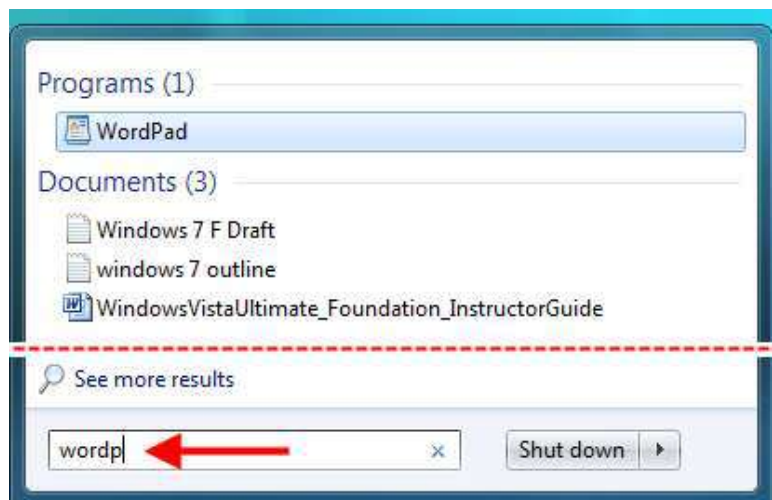
Some items in the All Programs folder may be highlighted; this indicates the program was recently installed.

## Search Bar

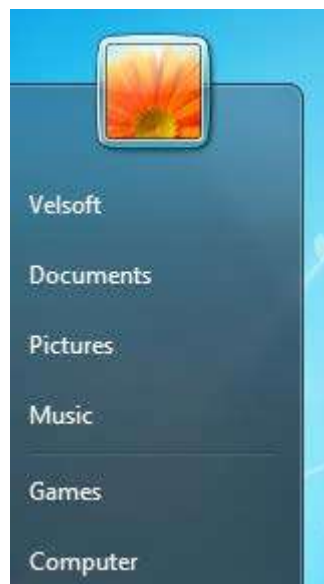


Located just above the Start Button is the Search Bar. If you type the name of a program or file, Windows will automatically look for the item based on the search criteria you entered. Any relevant results will be displayed at the top of the Start menu.

For example, here we have started to type "wordpad" into the Search Bar:

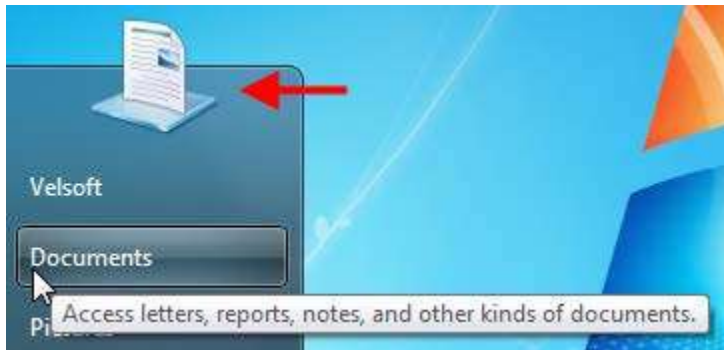


## Quick Links



The Quick Links area displays your user name and picture, as well as links to your Documents, Pictures, Music, and Games. Clicking any of these links will open the associated folder on your desktop to show you the contents.

If you hover your mouse over a particular item, the picture at the top of the Start menu will change to reflect that item, as shown here with the Documents library:



## Computer Control



The Computer Control area lets you perform more advanced tasks related to your PC.

The Control Panel option lets you customize nearly every detail of Windows 7.

Devices and Printers lets you view and modify properties of external devices connected to your computer.

Default Programs assigns a certain program to open automatically when a certain action is performed.

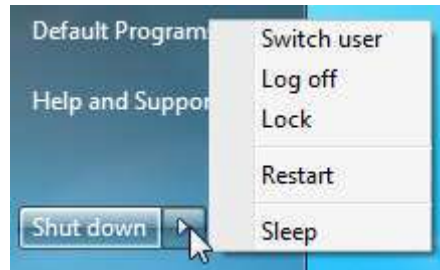
Help and Support Center provides a full help manual for Windows 7.

## Power Options

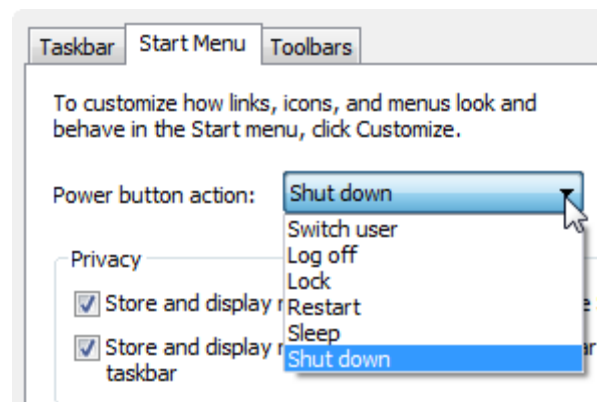


These controls are used to power down your computer or lock it so no one else can use it while you are away. By default, “Shut down” is displayed. Click this button and your computer will close any open programs, log you off of the computer, stop using Windows 7, and then power itself down.

If you click the arrow beside Shut down, you will see these options:



If you often put your computer to sleep or restart more than you turn it off, you can change the Shut down option to something else. Right-click the taskbar → Properties → Start Menu tab and then choose an option:



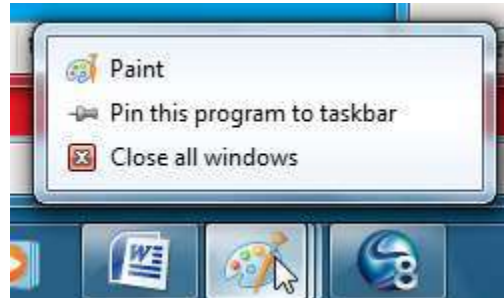
Click OK to make the change.

We will discuss how to customize the Start Menu later in this manual.

## Jump Lists

Jump Lists enhance the functionality of the taskbar. A Jump List appears when you right-click a particular icon on the taskbar and is different for each program or group of programs. You can also see a Jump List if you click an icon and try to drag it up off the taskbar.

For example, if we opened many Paint windows, this is the corresponding Jump List:



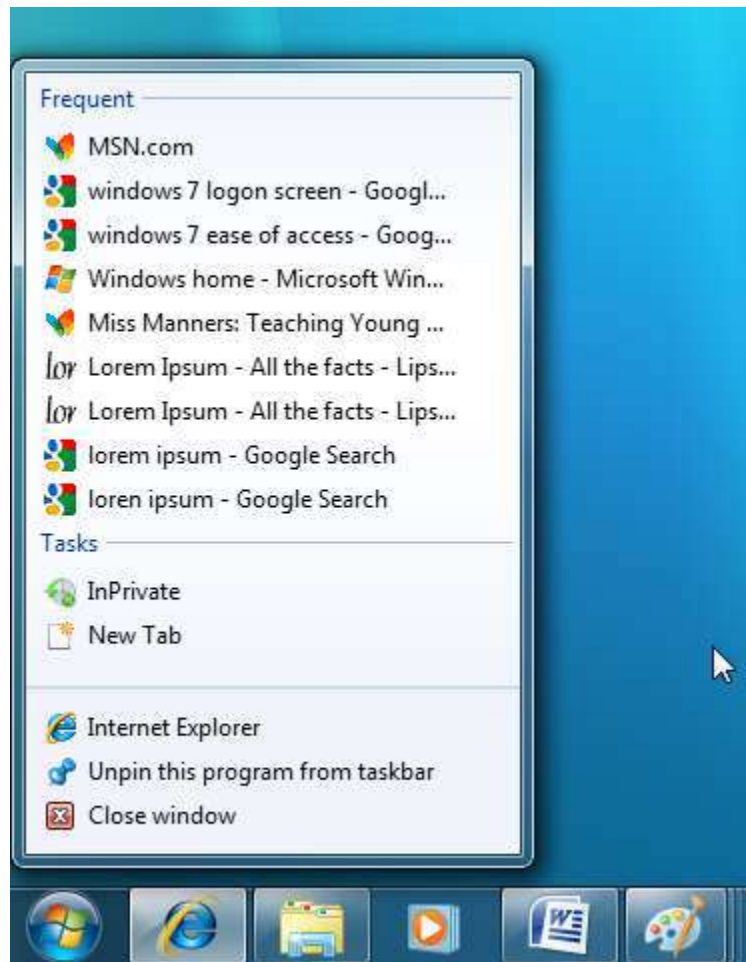
From top to bottom, you can choose to:

- Open a new instance of Paint
- Pin the program to the taskbar so its icon will remain there even when the program is closed
- Close all open Paint windows

Pinning the program to the taskbar means that Paint will become a semi-permanent fixture on the taskbar, just like Internet Explorer and Windows Explorer.

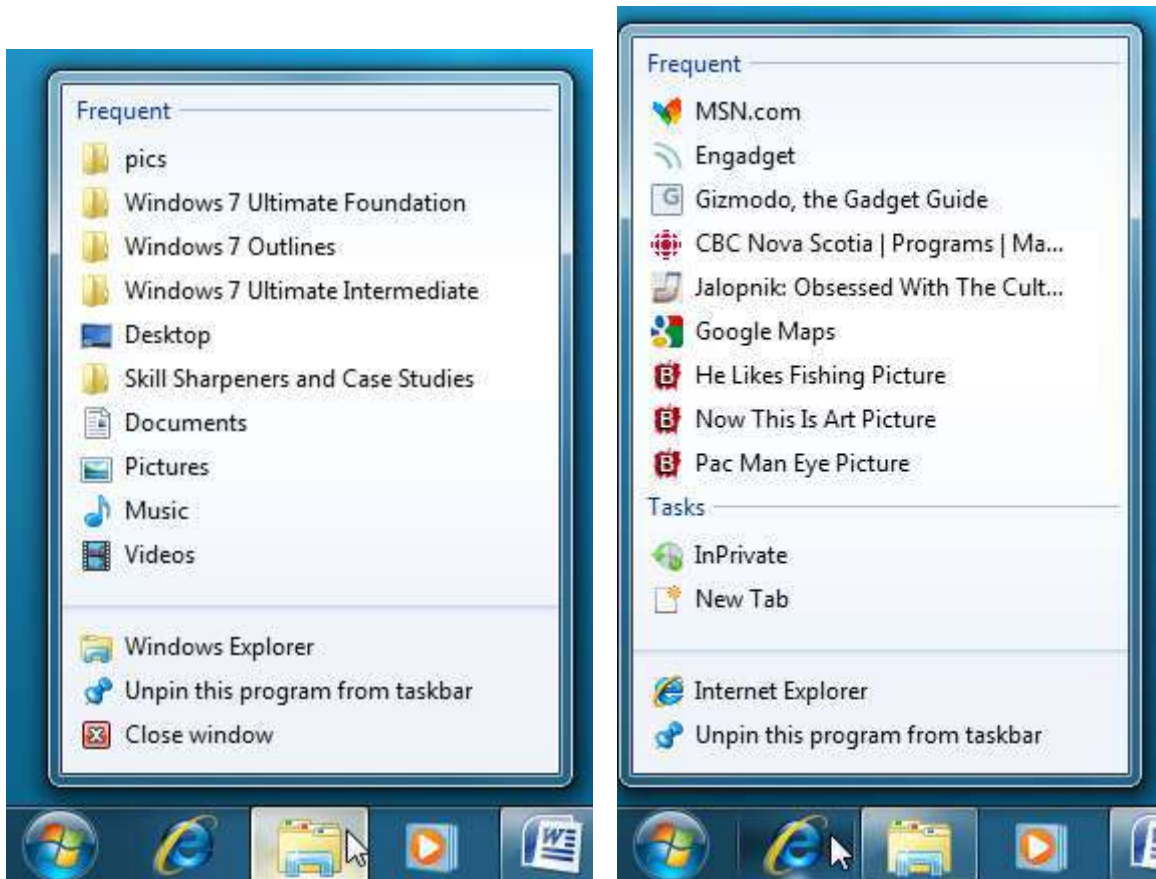


As another example, here is the Jump List for Internet Explorer after a bit of browsing was done:



(Note the command to unpin Internet Explorer from the taskbar.)

To use a jump list, right-click a program on the taskbar or try to click to drag the icon up and off of the taskbar. You can perform this action on an active (there are one or more windows open) or inactive (no windows currently open) icon:



You can see at the bottom of the two Jump Lists that each list shares a few common commands. There are two items for inactive icons and three for active icons.

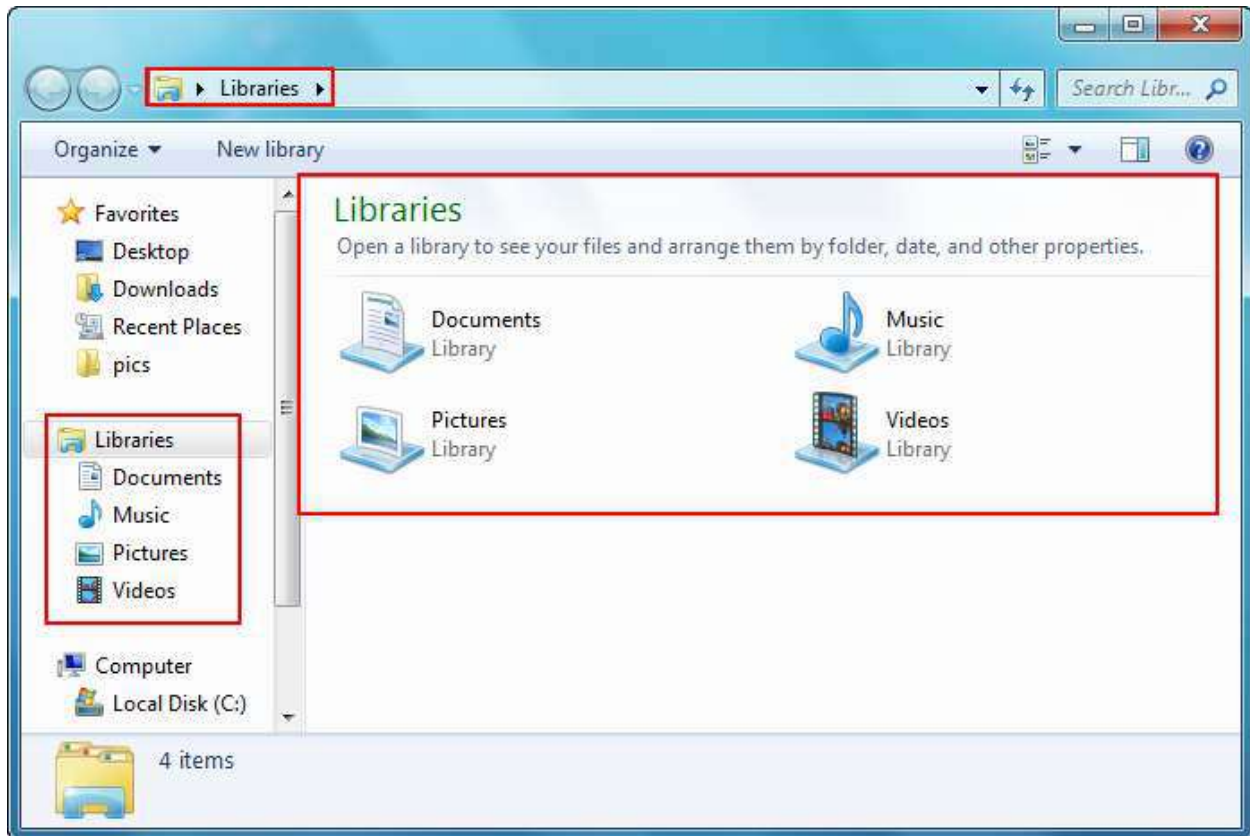
The first icon is always the program name (like Windows Explorer or Internet Explorer). Click the icon name to open a new window for that program.

Underneath, there is a pin or unpin command. Program icons can be pinned to the taskbar so they are always there when you need them. You can pin programs that are not on the taskbar, and unpin those that are, like Windows Explorer and Internet Explorer. By default, there are three pinned icons: Internet Explorer, Windows Explorer, and Windows Media Player.

Finally, you can close any open programs from the Jump List.

## Overview of Libraries

Libraries are a new organizational component in Windows 7. There are four default libraries which you can view by opening Windows Explorer and clicking the Libraries link on the left:

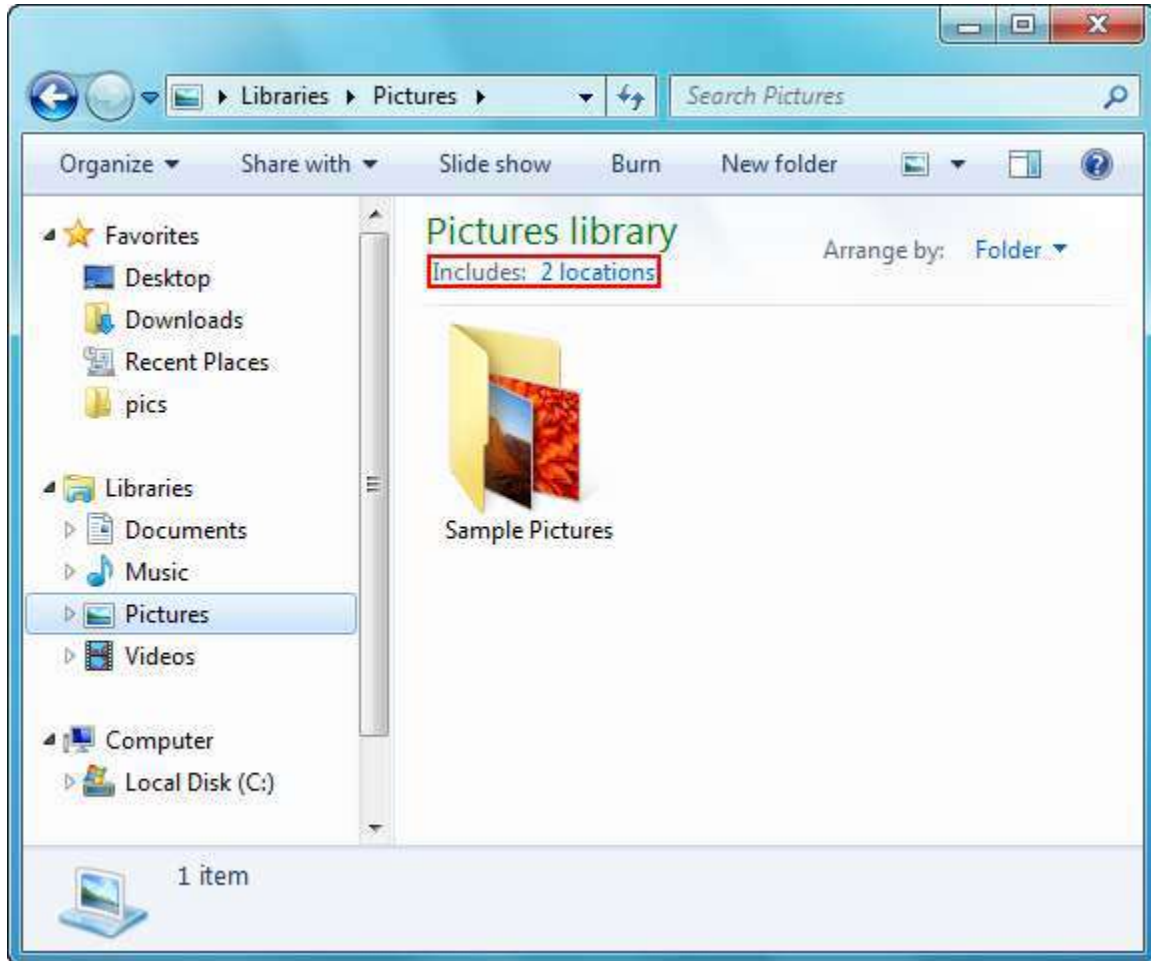


You can also open three of these default libraries from the Start menu:

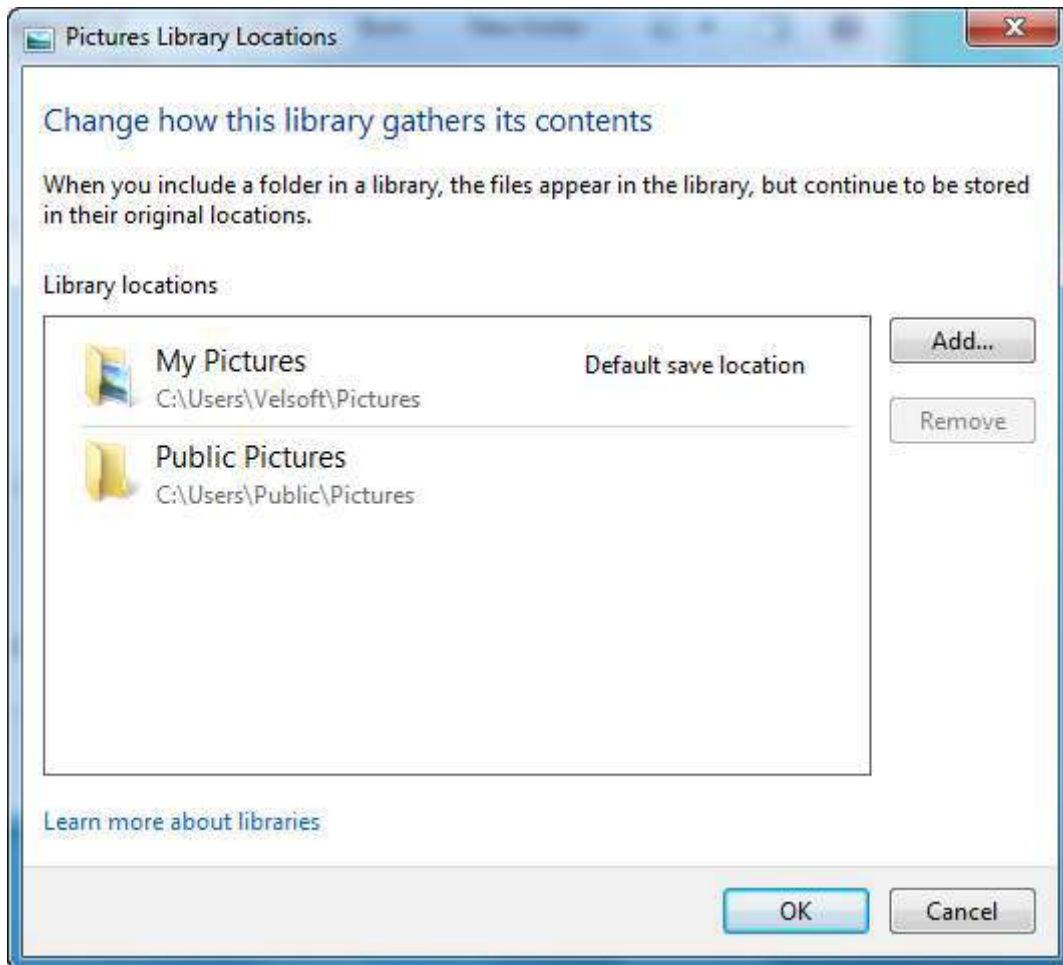


Libraries reference other files and folders from all over your computer. The advantage of a library is that you can access multiple locations on your computer through one specific folder.

For example, if you open the Pictures Library, you will see the following:

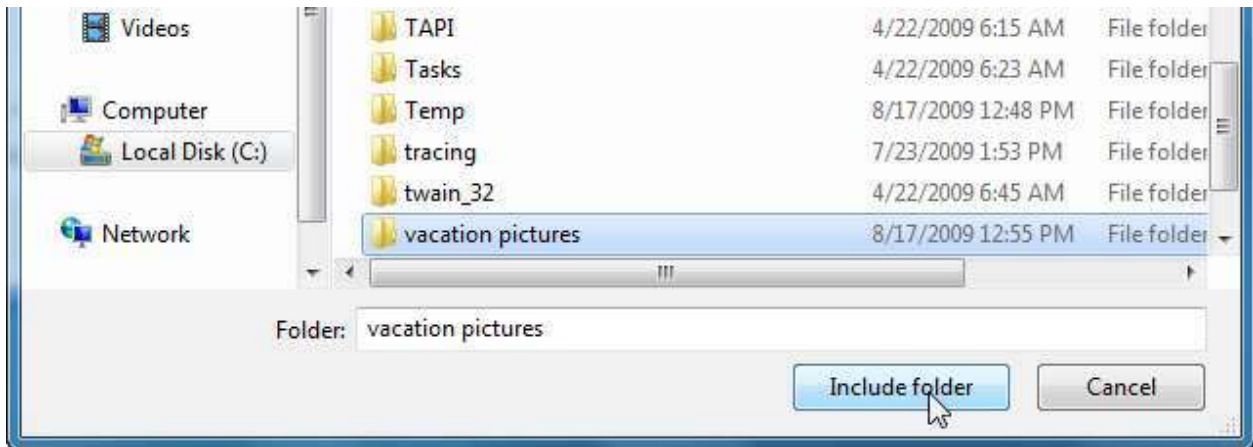


At the top of the folder, you can see that this library references two locations. Click the “2 locations” link to see the sources:



There are two folders shown here: the default pictures folder associated with your user account and the Public Pictures folder that is accessible by all users of the computer.

Click the Add button to include different folders in the library. Browse to the folder you want to use, highlight the folder, and then click “Include folder:”



Click OK to accept this new folder as part of the library:



## Other Keyboard Shortcuts

There are a few other useful keyboard shortcuts you can use to increase your productivity:

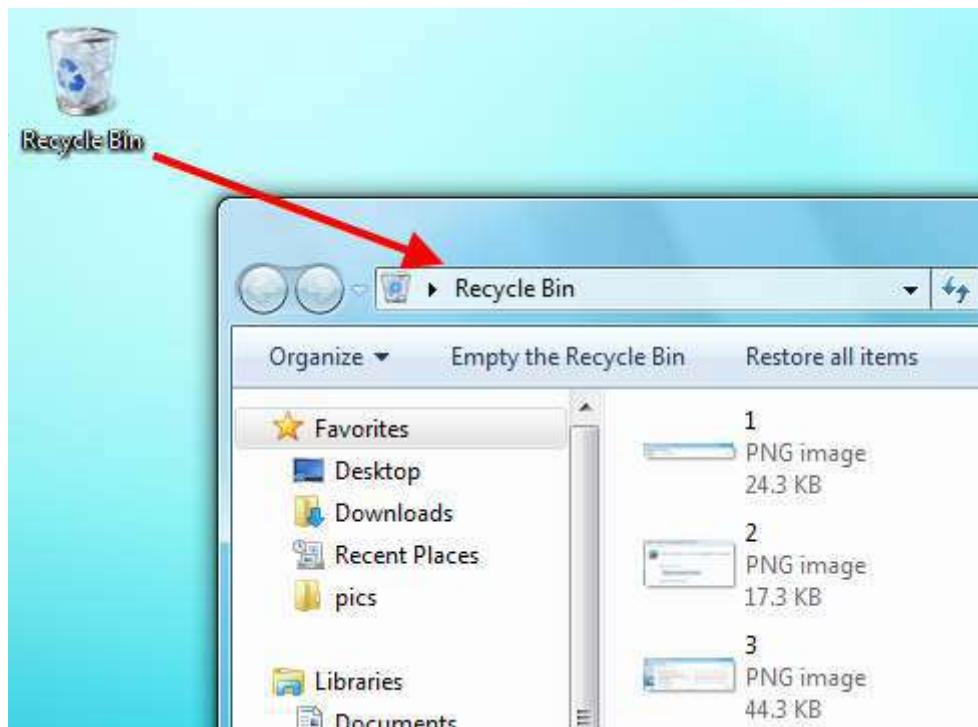
Command	Action
<b>Alt + P</b>	When using Windows Explorer, this command will show or hide the Preview Pane.
<b>Shift + click taskbar icon</b>	Opens a new instance of a program or folder.
<b>Middle click on an icon</b>	Press your middle mouse button or scroll wheel to open a new instance of a program or folder.
<b>Ctrl + Shift + click on taskbar icon</b>	Opens a new instance of a program or folder with Administrative rights.
<b>Shift + right-click on taskbar icon</b>	Shows the traditional window menu (Restore, Minimize, Move, etc.).
<b>Shift + right-click on stack of taskbar icons (one program)</b>	Shows the traditional window menu for all windows (Restore All, Minimize All, Close All, etc.).

## Lesson 1.3: Using the Recycle Bin

When you delete something from your computer, the item is actually moved to the Recycle Bin before it is physically erased from your computer. In this lesson, we will explore how to use the Recycle Bin and how to get back something that was deleted by accident.

### Opening the Recycle Bin

The Recycle Bin is visible on the Desktop. Double-click its icon to open the bin and view any files/folders that are inside:



The Recycle Bin is just like any other folder you can view using Windows Explorer. There is an address bar and search bar at the top, a list of links to other locations on your computer on the left, and the contents of the Recycle Bin in the middle.

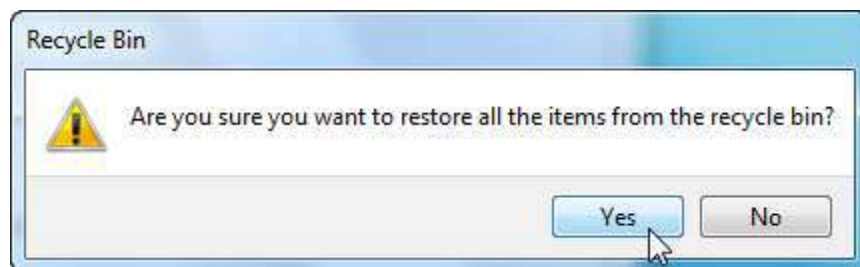


## Restoring Items

To restore (un-delete) all items in the Recycle Bin, click “Restore all items” at the top of the window:



If there is anything to restore, you will be asked to confirm your choice:



Click Yes to move the items in the Recycle Bin back to their pre-deletion locations.

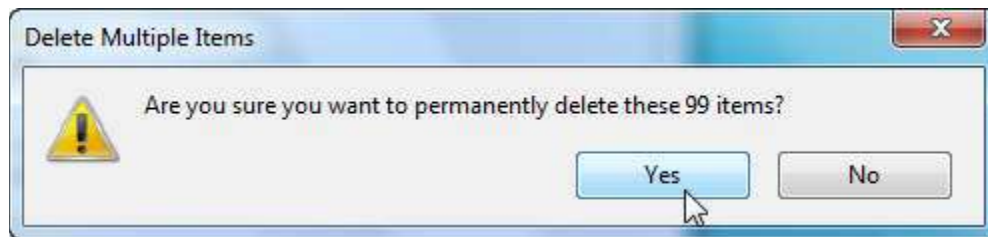
If you want to restore a single file or group of files, select the file or files to restore and then click Restore this item/Restore the selected items.

## Emptying the Recycle Bin

To delete items in the Recycle Bin for good, click Empty the Recycle Bin at the top of the window:



If there is anything to delete, you will be asked to confirm your choice. Click Yes to delete the items:



You can delete a file or files by selecting the items to delete and pressing Delete on your keyboard. Those items will be permanently deleted.

## Closing the Recycle Bin Window

To close the Recycle Bin window, click the Close button in the upper right-hand corner:



## Lesson 1.4: Using Gadgets

Windows Vista introduced the Sidebar, an area on one side of the screen that you could fill up with simple programs called gadgets to use or to have running while you were doing other things. Many users felt this sidebar took too long to load when starting your computer and took up too much space on the screen. Therefore, Windows 7 does not use the Sidebar, but it does retain the gadgets. In this lesson we will discuss what gadgets are and how to use and customize them.

### What are Gadgets?

Gadgets are simple programs that are designed to perform one specific task. They can run a small slideshow, show a clock or calendar, display current weather information, and more. Let's briefly go over all of the gadgets available in Windows 7:

Program	Description
<b>Calendar</b>	Browse a simple calendar. Double-click the date to switch between the full size date (left) and the calendar month (right). When viewing the calendar month, click the arrows beside the month heading to jump forwards or backwards through the calendar.



### Clock

View the current time or view the time from any time zone around the world:



Program	Description
---------	-------------

**CPU Meter**

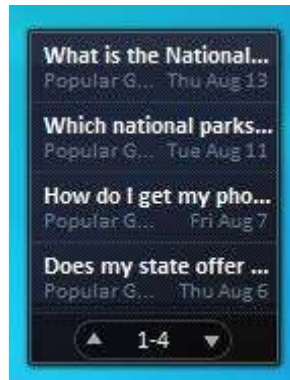
This gadget displays the current CPU and RAM usage in percentage:

**Currency**

Convert currencies from one form to another based on real-time figures. This gadget requires Internet connectivity:

**Feed Headlines**

Get the latest news, sports, and entertainment headlines. This gadget also requires Internet connectivity:

**Picture Puzzle**

This is a small game where you race the clock to reorganize a picture puzzle into its correct form. Click a tile adjacent to the empty tile space in order to move the pieces:

**Program****Description****Slide Show**

Pictures from the Pictures library will cycle themselves in a mini slideshow. Move your mouse onto the gadget to use the slide controls:



See that small toolbar to the right of the gadget? We'll discuss it in a moment.

**Stocks**

Keep an eye on different markets and stocks from around the world with this gadget. Internet connectivity is required:

**Weather**

Get real-time weather information from cities around the world in either Fahrenheit or Celsius. Internet connectivity is required:

Program	Description
---------	-------------



## Windows Media Center

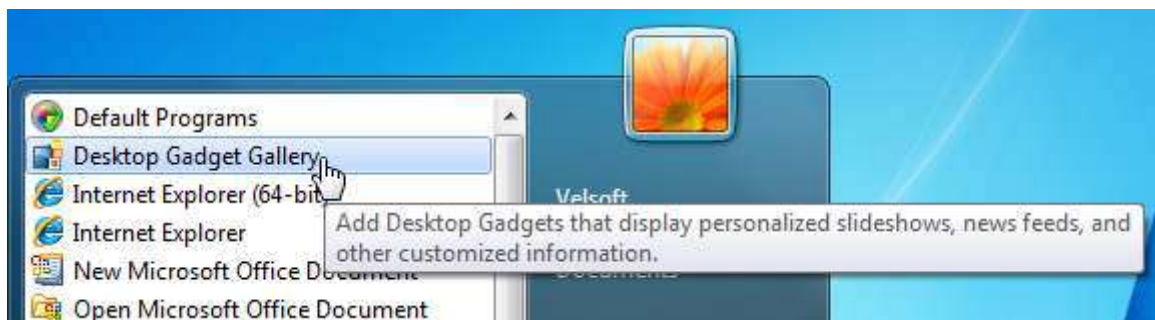
Get a thumbnail view of popular Internet TV options through Windows Media Center. Click the arrow buttons under the content window to browse categories or click the green Windows Media Center icon to open Windows Media Center. Internet connectivity is required for this content:



We will cover Windows Media Center later in this manual.

## Adding Gadgets

Open the Desktop Gadget Gallery. Click Start → All Programs → Desktop Gadget Gallery:



### **At-a-Glance: Desktop Gadget Gallery**

- Click Start → All Programs → Desktop Gadget Gallery
- Click and drag gadgets from this window to your desktop.

To add gadgets to your desktop, just click and drag a gadget to the desktop:



That's all there is to it! You can add as many gadgets as you like to the desktop, provided you have enough free memory available. You can also add the same gadget multiple times. For example, imagine you deal with people internationally and want to make sure you are contacting them at a reasonable time. You can add and configure multiple Clock gadgets with different time zones. (We will discuss gadget customization in a moment.)

Gadgets are not visible on the taskbar and are designed to remain underneath any other open windows. In order to see or use them, you will have to minimize other windows or press Windows Key + G to temporarily show all open gadgets on top of your other windows:






## Customizing Gadgets

All gadgets have a toolbar that becomes visible when you move your mouse over a gadget. The toolbar looks something like the ones shown here:



As you can see, there are two elements that all gadget toolbars share: the Close (top) button and the Drag (bottom) button. Click the Close (X) button to close the gadget and click the Drag button to move the gadget around the screen.

Gadgets that have the Larger Size command (  ) can be expanded in some way to show more information or show a larger version of the gadget:

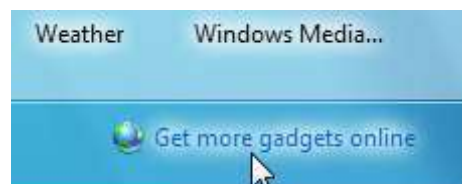


Gadgets that have the Options command (  ) let you modify the way the gadget works:



### Getting More Gadgets Online

There are a number of gadgets you can download from Microsoft on the Internet. Open the Desktop Gadget Gallery and click "Get more gadgets online:"



Your browser will open and direct you to a Microsoft Web page where you can download a number of different gadgets for your computer:

## Personalize your PC

Download fun extras to give your PC a personal touch

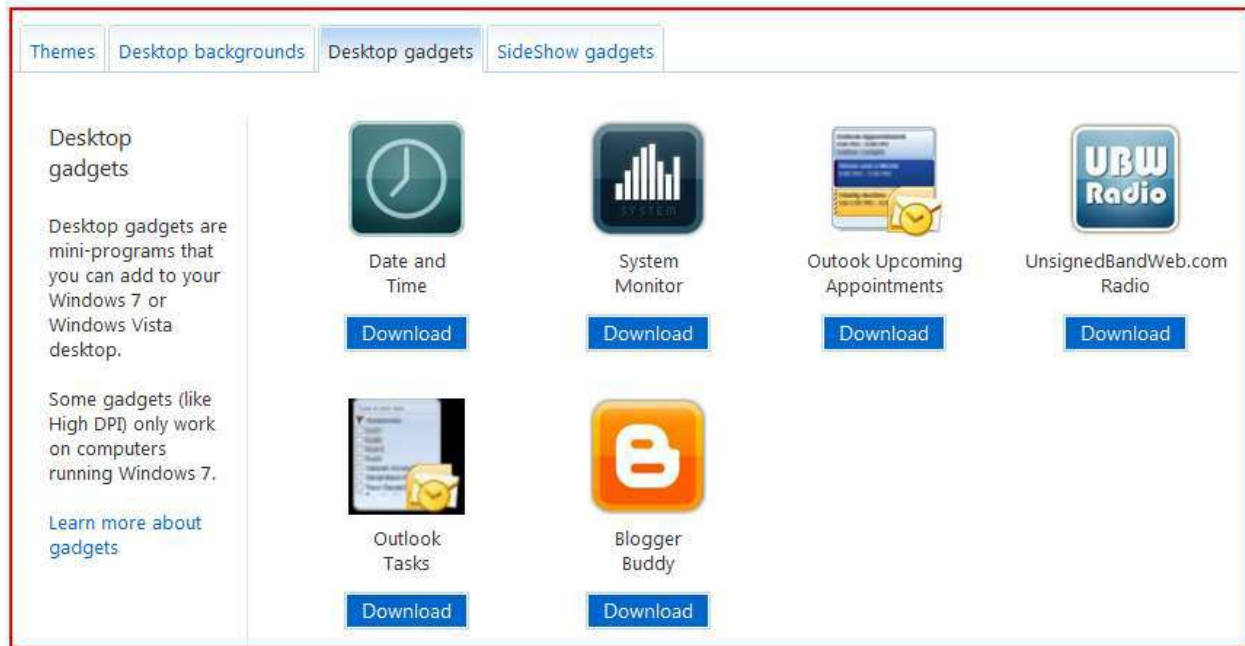


**Blossoms & Mt Fuji**  
A theme with exquisite calm.

**Yumi-ike Pond**  
An alpine lake on your desktop.

**Date and Time**  
Your schedule in a compact gadget.

**Customize a theme**  
Learn how to create your own theme to use on your PC or to share.









Themes Desktop backgrounds Desktop gadgets SideShow gadgets

**Desktop gadgets**

Desktop gadgets are mini-programs that you can add to your Windows 7 or Windows Vista desktop.

Some gadgets (like High DPI) only work on computers running Windows 7.

[Learn more about gadgets](#)

 Date and Time <a href="#">Download</a>	 System Monitor <a href="#">Download</a>	 Outlook Upcoming Appointments <a href="#">Download</a>	 UnsignedBandWeb.com Radio <a href="#">Download</a>
 Outlook Tasks <a href="#">Download</a>	 Blogger Buddy <a href="#">Download</a>		

There are also a number of other items you can download to further customize your computer.

## Section 2: The Windows 7 Applications

### In this section you will learn how to:

- Set up Windows Media Center and Windows Media Player
- Navigate through Windows Media Center
- Use Windows Media Center to play different types of media
- Open and play media using Windows Media Player
- Play, rip, and burn CDs using Windows Media Player
- Create your own DVDs with Windows DVD Maker
- Customize menus and slide shows for your DVD
- Set up a fax account
- Send a fax with Windows Fax and Scan
- Create custom fax cover pages
- Scan images with Windows Fax and Scan

## Lesson 2.1: Windows Media Center

Windows Media Center was first included with Windows XP Media Center Edition. Media Center is an all-around digital media platform that you can use with your computer or your television. A new version of this program is included with Windows 7 to encompass advancements in entertainment and technology.

Windows Media Center was designed to display pictures, music, and video with your television. Some people have a dedicated computer in their living room (such as a media center PC, media PC, or media server) that is used to play DVD and Blu-Ray discs, play games, view media content, and watch/record television programs (with the right hardware). Windows Media Center is designed to let you do all of this in one location with an easy-to-use interface.

### **At-a-Glance: Windows Media Center**

- Click Start → All Programs → Windows Media Center
- Designed for use with a television
- Use Windows Media Center to watch video; look at pictures; watch, record, and play back television, and more

If you purchased a computer that was designed to be used as a media center, chances are you received a remote control or receiver as well. The remote probably looks something like the desktop model shown on the left or the laptop/notebook model shown on the right:



As you can see, both models include standard play/pause/record and navigation buttons found on other types of remote controls. You can also press the green Windows button to launch Windows Media Center.

## Setting up Windows Media Center

Windows Media Center is designed to run in full screen mode to give the best video quality for television. If you aren't connected to a television, don't worry: the functionality is the same when using a keyboard and mouse with no remote control.

If you have a Media Center enabled PC and a remote control, you can launch Windows Media Center by pressing the green Windows button. Otherwise, open Windows Media Center by clicking Start → All Programs → Windows Media Center.

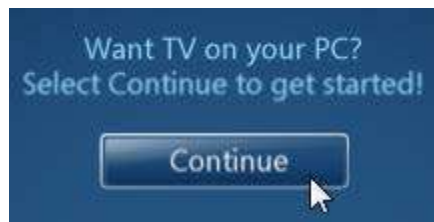


To navigate using the remote control, use the up, down, left, and right buttons to move focus and then press the OK button to make a selection. We will continue our examination of Windows Media Center using the keyboard and mouse.

If you move left or right through this welcome screen, you can browse through the major features of Windows Media Center. They are:

Features	Description
<b>Your Guide to Internet TV</b>	You can use Windows Media Center to watch internet and digital television (provided you have the correct hardware.)
<b>Your PC is Your DVR (Digital Video Recorder)</b>	Over the last few years, the popularity of DVRs or PVRs (Personal Video Recorders) has grown. These devices are essentially a digital cable converter box with a large hard drive. You can record your favorite shows and watch them when you want rather than waiting for the show to come on.
<b>Discover New Movies</b>	Get access to the latest trailers and movie information using Windows Media Center.
<b>On Your TV and On the Go</b>	Interconnectivity is the name of the game when it comes to modern technology. Use Windows Media Center to organize media between your TV, PC, Xbox 360 game console, and other digital media devices.
<b>Everything in One Place</b>	Windows Media Center lets you easily sort and organize your music, movies, and pictures.

Now that we know a bit more about what Windows Media Center can do, let's get set up. Click the Continue button to proceed:



Click OK to begin the setup.

Now you can choose between going online to learn more about Windows Media Center, going through the Express setup or going through the Custom setup. For most people, the Express setup will get you up and running quickly. However, we will walk through the different stages of the Custom setup.

Click the Custom item to continue:



Click Next to continue with setup:

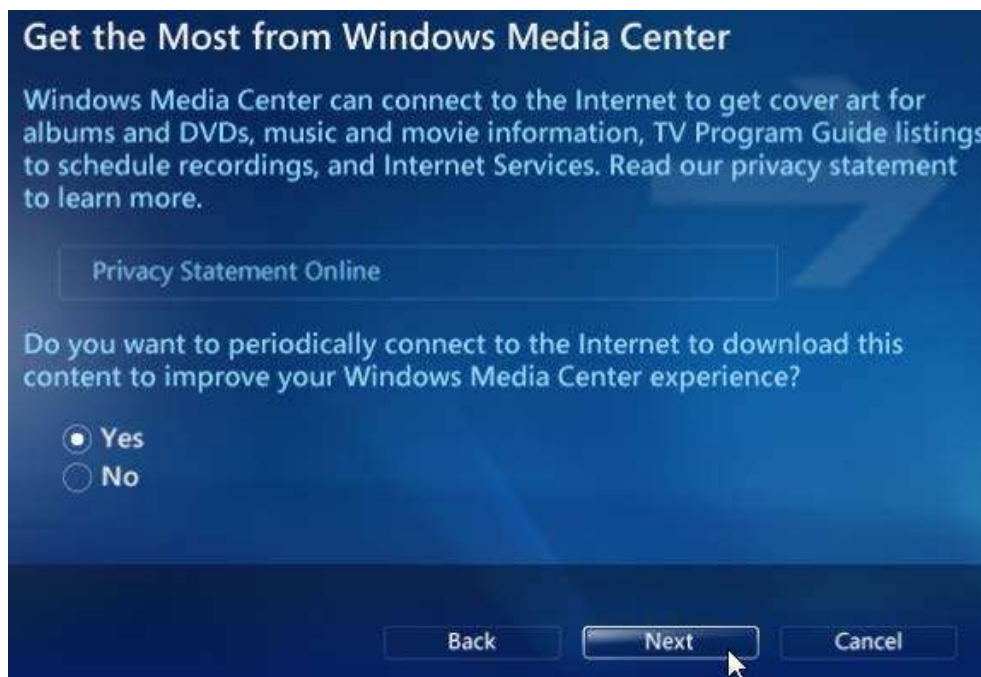




You will then be asked if you want to participate in the Customer Improvement Program. This will send anonymous user usage information to Microsoft which is used to make future improvements to the software. Make your choice and click Next.



Much of the content accessible via Windows Media Center is downloaded from the Internet. If you want to make sure the different aspects of your Windows Media Center experience stay up to date, select Yes and then click Next:



That's all Windows Media Center needs for its required setup. Click Next to continue.

Now you will be able to set up the individual hardware components associated with Windows Media Center. (This is where you may see more or fewer setup options.) Highlight a radio button and click Next to proceed through the setup for that particular component.

When you have finished, select "I have finished" and click Next:



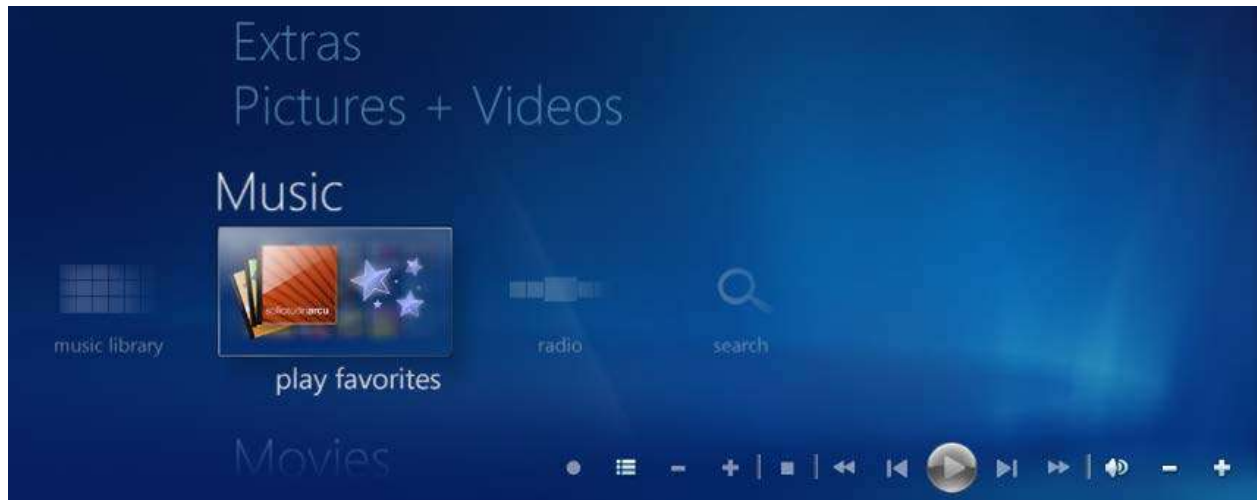
Click Finish to complete the setup.

### **Navigating Through Windows Media Center**

Windows Media Center was designed for use on a television or on a large screen, hence the creation of the remote control. But if you only have a keyboard and mouse, you can still do everything you could if you had the remote control. (It's actually a bit easier to use the mouse because you can just click an item instead of moving sequentially through the options.)

You can use the mouse wheel to scroll up and down through the options or use the arrow keys on the keyboard. To make a selection, either click on it or press Enter on your keyboard. Most menu categories, like TV + Movies, have multiple options.

Use the left or right arrow keys to scroll through the options or click the option you want to view:



At the top of Windows Media Player there are two buttons: a Back button and Windows Media button:



The Back button will move back to the last location you visited. The green Windows Media button will always return you to the main menu for Windows Media Player.

## Using Tasks

The Tasks category is comparable to the File menu of most programs. There are seven different options in the Tasks category:

### Shut Down

Shut down your computer or perform other power operations in this menu:



From left to right, the icons are Close (Windows Media Center), Log Off, Sleep, Restart, and Shut Down.

### Settings

This section contains commands to modify nearly every part of Windows Media Center. The main categories are:

- **General:** Control how Windows Media Player starts, control sound options, run setup (useful if your hardware configuration has changed), add parental controls for offensive content, and modify how Windows Media Center downloads content from the Internet. You can also view Microsoft's privacy commitment as well.
- **TV:** If your computer is equipped with a TV capture card, configure how Windows Media Center will record video and sound, as well as closed caption options.
- **Pictures:** Modify settings dealing with the slide show feature of pictures such as display time, showing picture captions, animation options, and background color.
- **Music:** Define your favorite music, select which visualizations to use and modify visualization properties.
- **DVD:** Select the default language, set closed captioning options, and configure button controls (if your computer is equipped with a remote control).
- **Start Menu and Extras:** Select which items to show in the Windows Media Center menu and control other settings related to downloaded content from the Internet.
- **Extender:** Modify extender properties (external devices) you want to set up to work with Windows Media Player.
- **Media Libraries:** Select which media folders on your computer you want to show in Windows Media Center.

### Learn More

Directs you to a link to visit [windowsmediacenter.com](http://windowsmediacenter.com).

### Burn CD/DVD

If you insert a blank CD or DVD, you can use Windows Media Center to add content to the disc. Select Data DVD, Video DVD, or DVD Slide Show, click Next, and then follow the directions.

### Sync

If you have a portable media device (such as an MP3/MP4 audio/video player) that is compatible with Windows, use the Sync option to transfer audio/video files back and forth between your computer and the device.

### Add Extender

An extender is an external device that can be used to interact with Windows Media Center, such as a digital stereo receiver, an Xbox 360 gaming console, a remote control, or some other device. (Digital cameras, audio players, and video cameras are not considered extenders.)

### Media Only

This feature allows you to turn your computer into a media showcase by only allowing Windows Media Center to run when your computer is turned on. Set up a password to be able to shut down Media Center. Media Only mode is useful if you want to set up a computer to display a slideshow or promotional video in a kiosk.

## Using TV and Movies

If your computer is equipped with a video capture card, you can record video from most coaxial, S-video, RCA, or digital input sources. This means you can record from things like a VCR or cable television. Once the information has been recorded onto your computer, the TV and Movies sections of Windows Media Center can be used to play back your video content.

Let's explore TV first. This section has three options.

### Recorded TV

Your computer can store recorded video as long as there is enough hard drive space to save the information. Once video has been saved, you can add a title and caption to the video clip. Windows Media Center comes with a short Landscapes clip:



### Guide

Click this option to see a number of different media clips available via MSN's Internet TV Guide. Hover your mouse over a particular clip for more information, and then click to watch:



### Live TV Setup

If your computer is equipped with a video capture device, use this option to detect channels and configure the device to work with Windows Media Center.

The Movies section of Windows Media Center includes two options:

Program	Description
<b>Movie Library</b>	You can purchase digital copies of movies to save on your computer. Use this option to scan your computer for any movies and then classify them according to genre, rating, date, etc.
<b>Play DVD</b>	Insert a DVD movie, get some popcorn, and enjoy yourself! Use the remote control that came with your computer or the on-screen menu to navigate the DVD.

### Using Pictures + Videos

The Pictures + Videos section of Windows Media Center works much like Windows Media Player, which we will look at in the next lesson. There are three options in this section:

#### Picture Library

When you first click this command, you have the option to scan your computer for all folders that contain pictures. If you skip this step (which you can repeat later), you will view all pictures in the Pictures library of your computer. Click the Play Slide Show command to begin viewing pictures. To view images in a certain folder, simply click the folder:



This will give you the option to view these images in their own slide show, or view them sorted by name or date.

### **Favorites**

You can flag your favorite images in different folders. When you click the Favorites item, you will be shown a stylistic slide show of the images.

### **Video Library**

Like the Picture Library function, Video Library allows you to view all movie content on your computer (but not recorded TV or Movies unless you specifically add content.)

### **Using Extras**

The Extras category is at the top of the main menu:



This category is used to display everything else that Windows Media Center can do. There are a number of different categories here, most of which deal with different online content:

### **Internet TV Beta 2**

Internet TV gives you access to free TV clips related to Music, Sports, News, Viral Videos (Internet videos that become popular and spread very quickly), etc. You can also browse

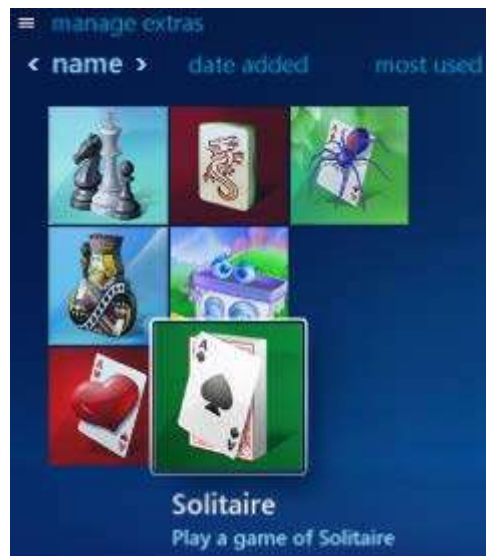
different TV series, different channels, the most popular videos, and more. (At the time of publication, this service was still in beta testing.)

Just click a clip to watch it:



### Extras Library

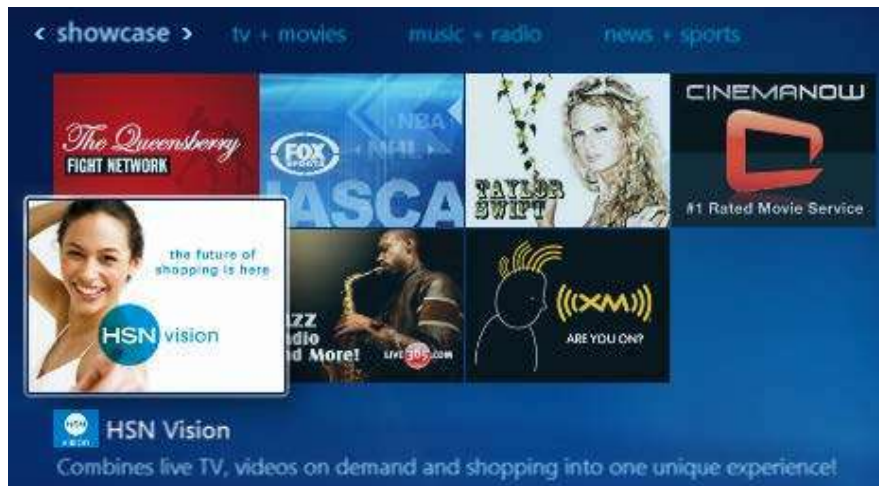
At the time of publication, the Extras Library includes the ability to play the games that come installed with Windows 7. Other extras will become available for Windows Media Center in the future.



### Explore

Take a brief tour of some online and on-demand content available through Windows Media Center:





### Internet TV

Internet TV gives you access to free TV clips related to Music, Sports, News, and Viral Videos. You can also browse different TV series, different channels, the most popular videos, and more. (At the time of publication, this service was only available in the continental United States.)

### News

Browse MSNBC.com's news feeds. Pick a category and then click a video to play:



### Learn How

Use this feature to view online video tutorials of other Windows Media Center Extras functionality.

(At the time of publication, this service was only available in the continental United States.)

### New Extenders

An extender is an external device that can be used to interact with Windows Media Center, such as a digital stereo receiver, an Xbox 360 gaming console, a remote control, or some other device. (Digital cameras, audio players, and video cameras are not considered extenders.)

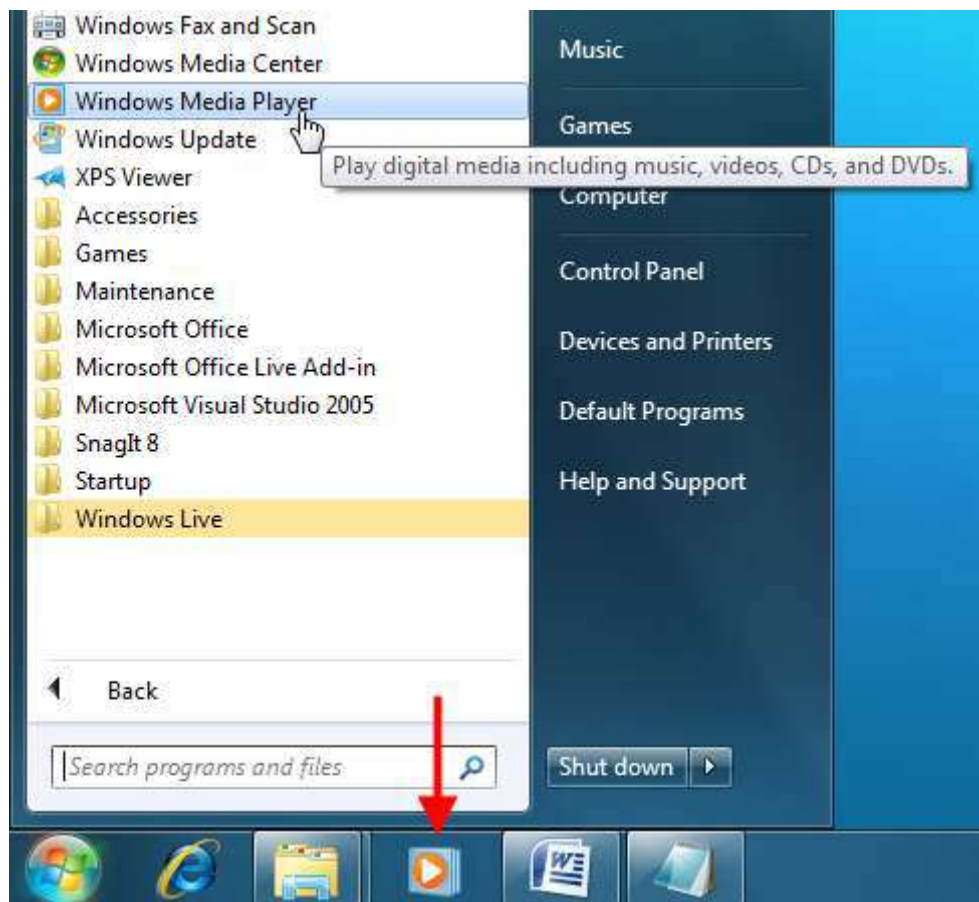
Use this option to learn more about new media extenders available to Windows Media Center and read information on updates for current extenders.

## Lesson 2.2: Windows Media Player

Windows Media Player is used to watch videos, play DVDs, listen to music on CD or other audio formats, play sound files, view pictures, and play Internet content. In this lesson we will learn how to use Windows Media Player.

### Opening Windows Media Player

Windows Media Player can be opened by clicking Start → All Programs → Windows Media Player or by clicking the icon in the taskbar:



#### **At-a-Glance: Windows Media Player**

- Click Start → All Programs → Windows Media Player
- Play video and audio files, audio CDs, and DVDs.

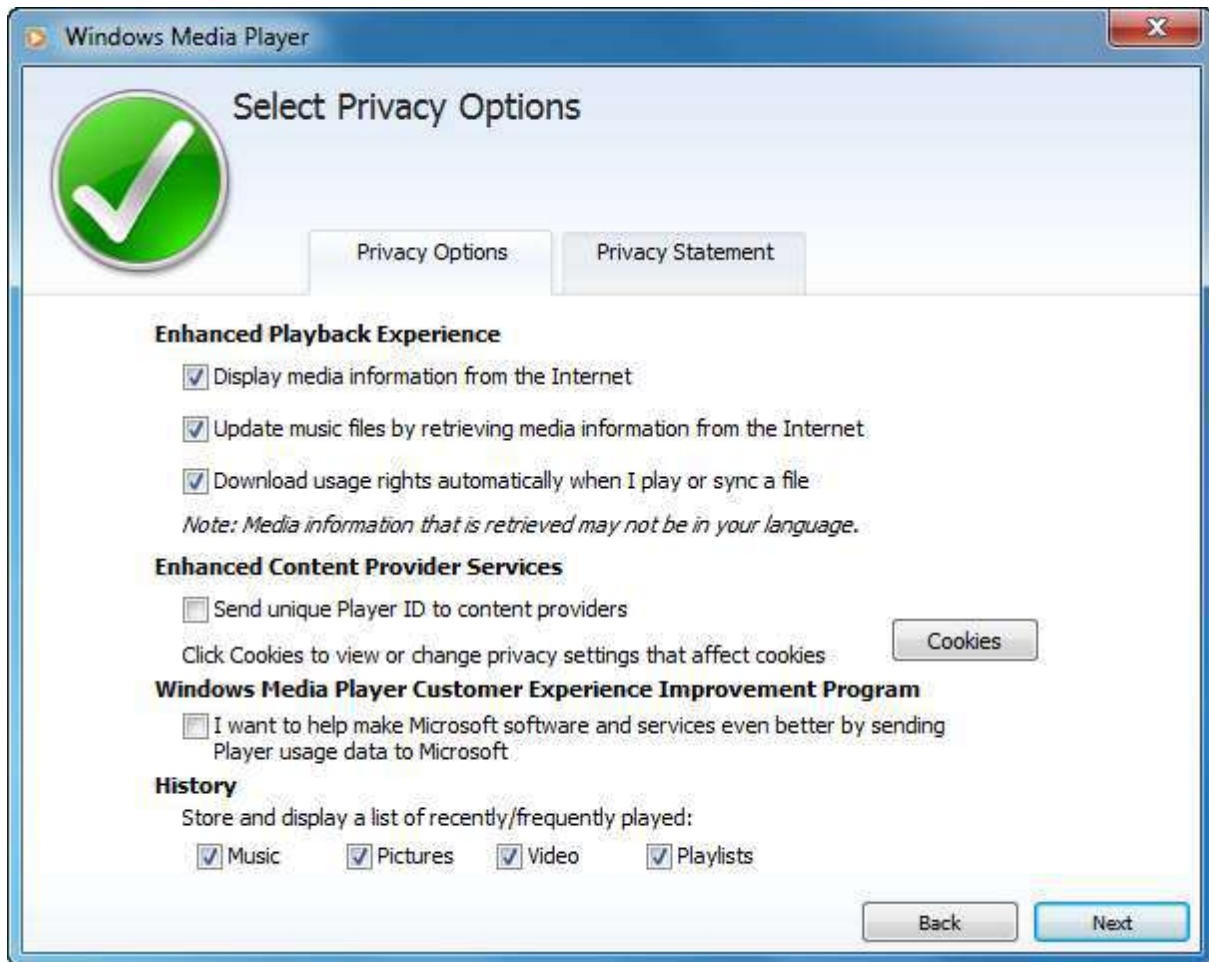
## Setting Up Windows Media Player

When you first open Windows Media Player, you will be prompted to set up different elements of the program. For example, when you insert an audio CD, Windows Media Player can connect to the Internet to download album information. There are two options: Recommended and Custom:



For most people, the Recommended settings will be fine. This will make Windows Media Player the default player for all forms of media, enable all online features, and more. In this example, we will click Custom settings and then click Next, just to get an idea of what features can be customized.

The first page of options lets you control how much information Windows Media Player will download about the content you are currently using.



You can control how Windows Media Player will handle cookies (small bits of information that are stored on your computer to tell Internet sites information about your last visit). And, you can have Windows Media Player store or ignore recently played music, pictures, videos, and playlists (lists of media that can be played as a group).

When you have set your options, click Next to continue.

The next page gives you the option to make Windows Media Player the default program to view all media, only certain types of media, or none at all. This means that if you chose Windows Media Player to be the default player for all MP3 audio files, the program will open if you double-clicked an MP3 file on your computer.

We will continue by making Windows Media Player the default media player:



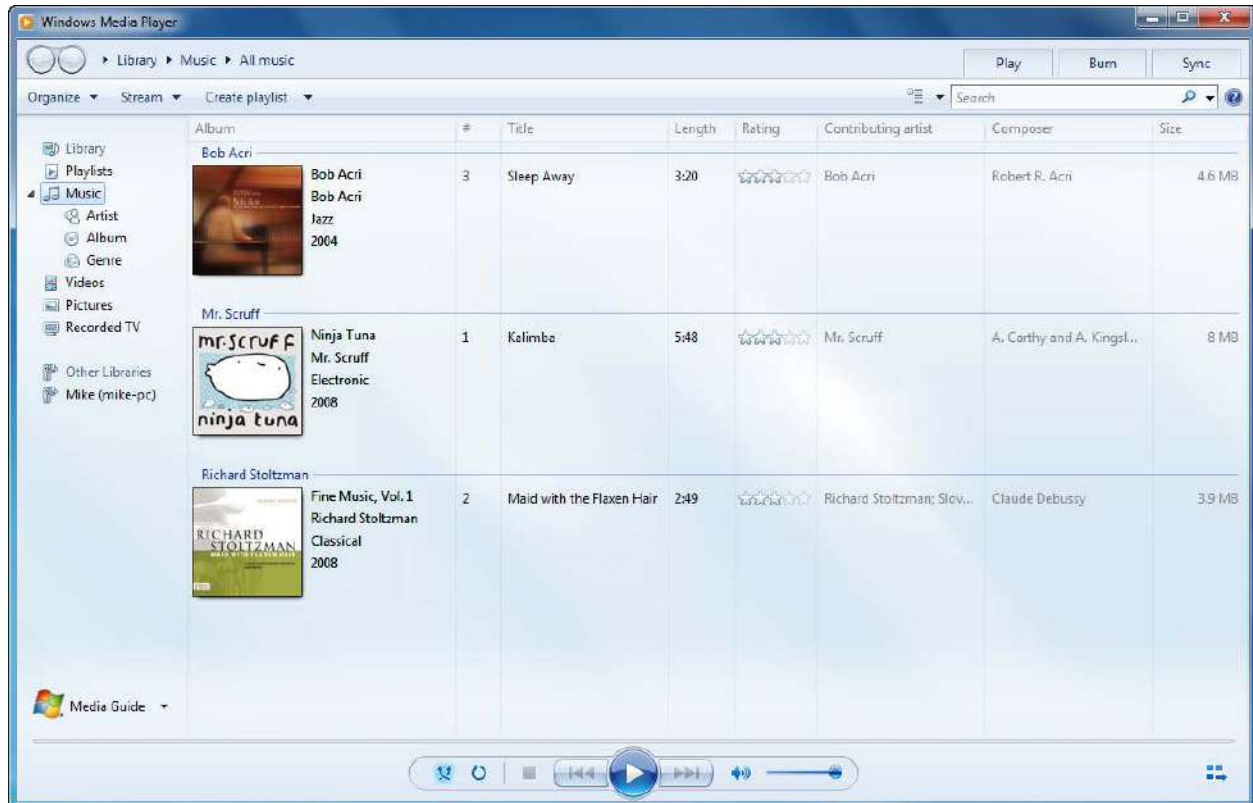
The final step is to decide if you want to have access to an online media store where you can purchase audio and video files to use with Windows Media Player. Make your choice and then click Finish:



After a moment, Windows Media Player will be open and ready to use.

## Windows Media Player Overview

Windows Media Player looks similar to many other folders you have used in Windows 7. Let's take a look at the different areas of the window:



At the top, there are Back and Forward buttons, an address bar showing the current location of media you are using, a search bar to search your media files, and some tabs and commands to use and organize your files. We will look at the Play, Burn, and Sync tabs in a moment.

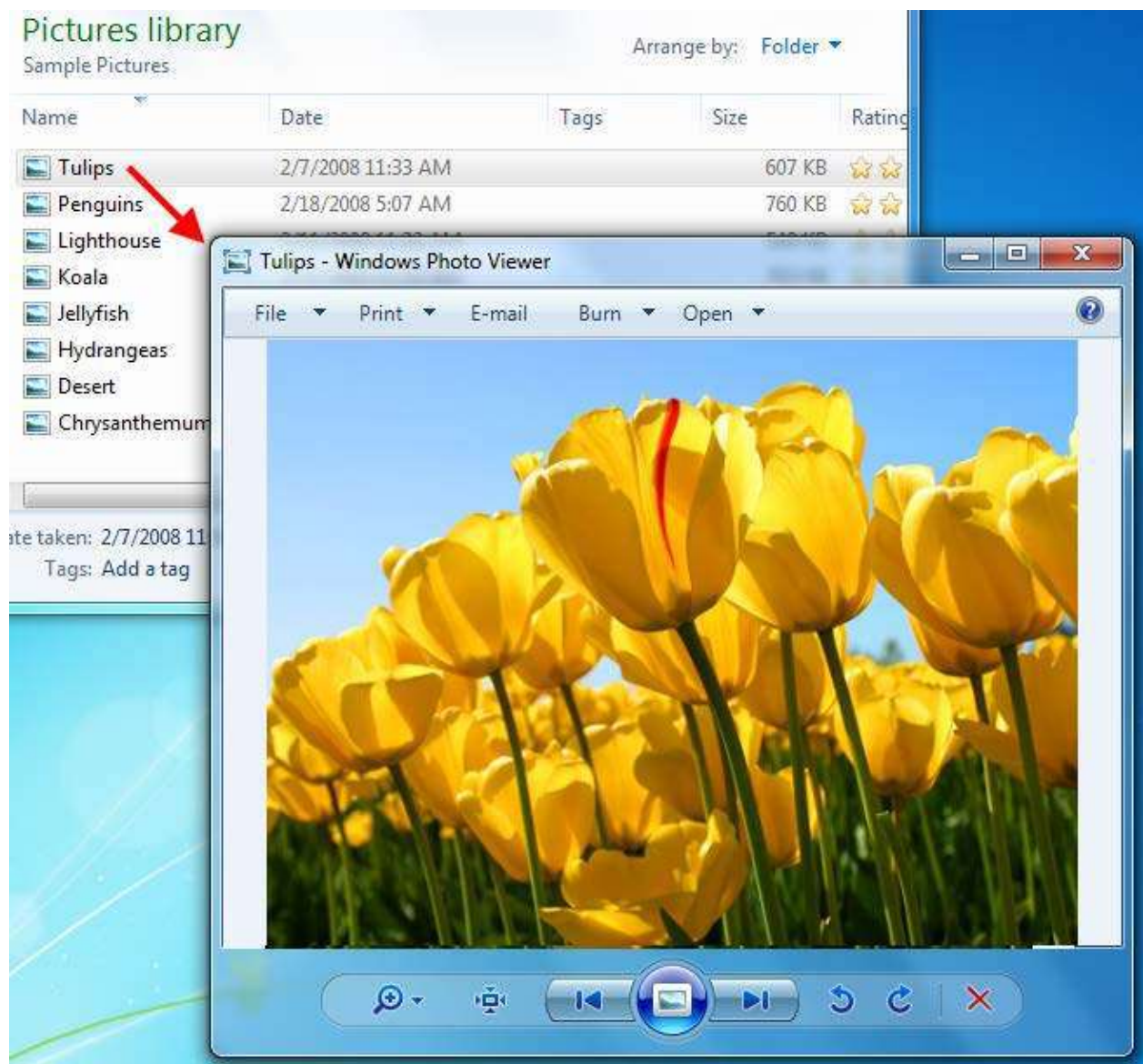
On the left, there is a list of the media libraries on your computer. If you are connected to a wired or wireless network, you may also see a list of other devices that are capable of sharing and playing media files. These devices may be other computers, an Xbox 360 game console, network media servers, etc.

In the middle of the window, you will see (by default) some sample music files that you can play. Finally, the bottom of the window shows playback controls which you can use when viewing or listening to media files.

## Playing a Media File

You can play media in a couple of different ways using Windows Media Player. If you have set Windows Media Player to be the default player for audio and movie files, double-clicking a media file will open it and display it in the player. This works for pictures, music files, and video files.

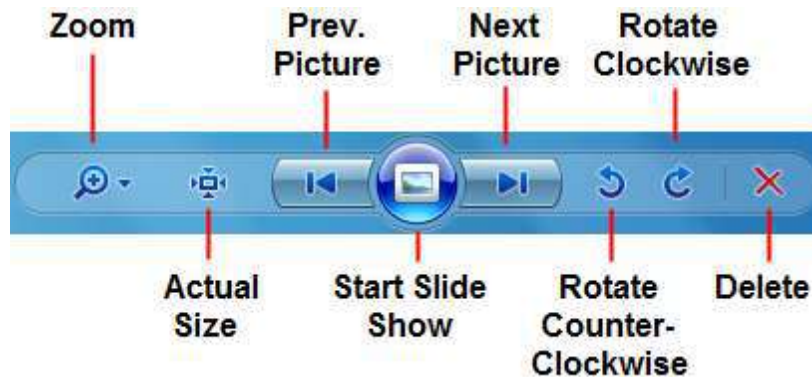
When you open a picture, it will open in Windows Photo Viewer, a sub-program of Windows Media Center. There are commands along the top to work with this and other picture files, and playback controls at the bottom of the window.





The menu commands provide the following options:

Command	Description
<b>File</b>	With this menu you can delete the picture, copy it to the computer's clipboard, make a copy (save it somewhere else), view picture properties, or exit Windows Photo Viewer.
<b>Print</b>	Print the picture using a printer or order prints from online photo developers.
<b>E-mail</b>	If you have a mail client installed on your computer, such as Microsoft Office Outlook, click this button to add the picture as an attachment to a new e-mail.
<b>Burn</b>	"Burn" refers to the operation of writing information to a recordable CD or DVD. We will discuss burning files later in this lesson.
<b>Open</b>	Open this file in another program for editing or viewing, such as Paint or Windows Media Center.



When you open an audio file with Windows Media Player, the file will begin to play in a mini mode:



In this mode, you will see the album art and artist/track information. If you move your mouse into the mini player, you will see a small set of playback controls:



(Click the Speaker icon to mute, click the pull-down arrow to adjust volume.)

Video playback is similar to audio playback. The video will play in mini mode; move your mouse inside the player window to see playback controls:



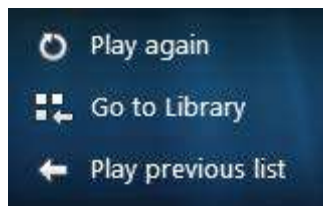
When you open a video, it will play at its default size, but you can resize the window. The video will keep its aspect ratio when resized:



Here is an overview of playback controls:



When an audio/video track or playlist finishes playing, you will have the option to play it again:



If you click Return to Player while playing an audio/video file, you will be returned to the main Windows Media Player window.

## Playing a CD

Playing an audio CD is easy: just insert the CD into the CD or DVD drive of your computer. After a moment, Windows will recognize the CD and start to play the first track. If you have allowed Windows Media Center to connect to the Internet and download album information, you will see the album cover art in the background:



Use the controls at the bottom of the window to change tracks or adjust the volume. At the top of the player, there is a new icon beside the Return to Player command; Rip CD. Ripping a CD is the next topic in this lesson.

## Ripping a CD

When you insert an audio CD into your computer, Windows Media Center will open and the disc will play. You have the option to rip most CDs. “Ripping” a CD means extracting the audio tracks from the CD and saving a copy on your computer. The file can then be copied to other computers, a digital music player, etc.

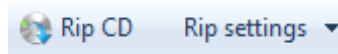
As you might expect, this opens up a legal can of worms! It is 100% legal for you to make an electronic copy of a CD you own, but you are not allowed to sell or distribute that digital copy to others.

There are some audio CDs that feature copy protection, so you will be unable to rip tracks from these types of discs using Windows Media Player.

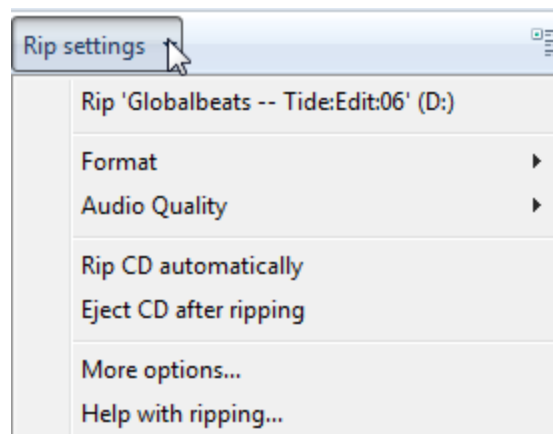
To rip a CD, click the Return to Player command. You will see the tracks of the CD in Windows Media Player:



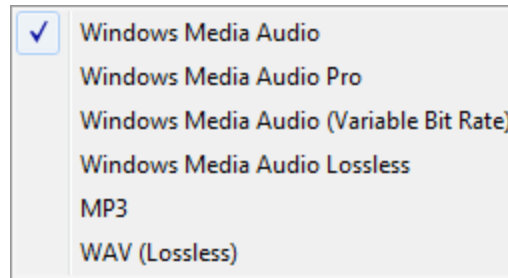
In the command area, there are two rip commands:



Let's look at rip settings first. This option lets you modify how Windows Media Center will extract those tracks:

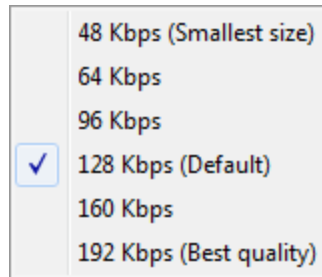


The Format submenu lets you choose between different audio formats supported by Windows Media Center:



Each format is different in its own way. Windows Media Audio (.wma) and MP3 audio files are widely supported by different media players. Windows Media Audio Pro, Windows Media Audio Lossless, and WAV files will give better sound quality, but at the cost of file size. A large audio file isn't that big of an issue on a computer hard drive, but it doesn't take long to fill up a portable media player with huge files!

The Audio Quality submenu gives you further control over the file size and audio quality:



Audio files play back at a certain bit rate, measured in kilobits per second. Higher bit rates mean better quality but larger file sizes.

To rip the CD, click Rip CD in the command area of Windows Media Player. As each track is extracted, you can view the progress. The length of time required to rip a CD will vary between computers, but typically it shouldn't take more than a few minutes:





Experiment with different sound formats and bit rates. The default options (Windows Media Audio, 128Kbps) give good audio quality and moderate file sizes.

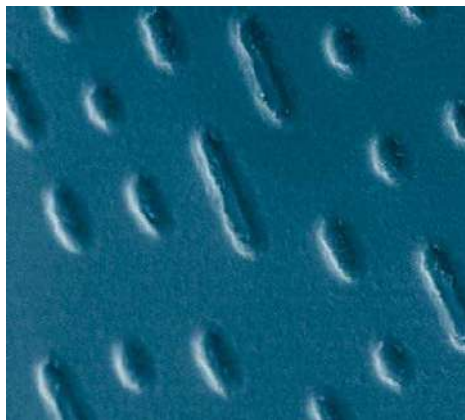
When the ripping process is complete, open your Music library. You will see the ripped album listed:



## Burning a CD

Windows Media Player allows you to take individual songs from various artists and burn them together in a compilation on a recordable CD (CD-R). You can add as few or as many songs as you like to the CD; the only limit is the 60-80 minute length of time that can be contained on a standard CD-R.

“Burning” a CD (or other forms of optical media) is the process of recording information onto a blank disc. Optical drives work by reading the microscopic marks on a disc, which look somewhat like the dots and dashes of Morse code:



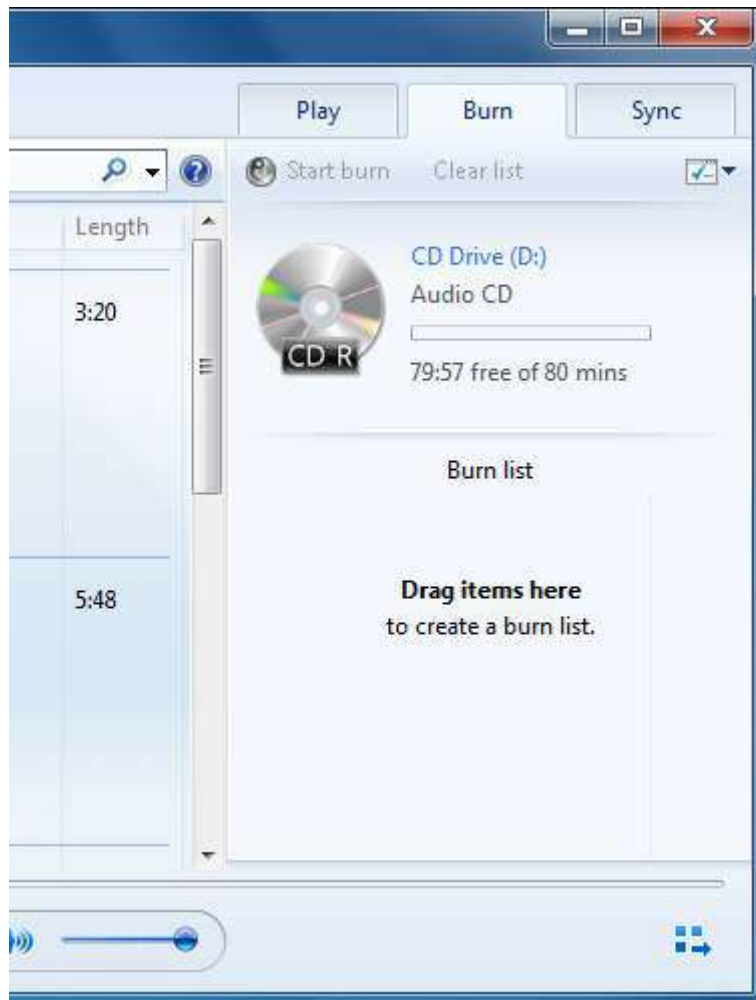
The laser inside the optical drive is pointed at the surface of the disc and reflected to a light-sensitive switch. As the disc spins, the laser is reflected off of the bumps on the disc, thereby briefly stopping the light touching the light-sensitive switch. This pattern of on-off-on is converted to digital data that can be understood by a computer.

Blank discs have a light-sensitive layer of dye built into the plastic that makes the actual disc. When a disc is “burned,” the laser in the recordable drive burns a dark patch onto the surface of the disc. When the burned disc is then read, the laser light gets absorbed into the dark patch of the dye, thereby creating the same on-off-on pattern that would be created by a normal disc.

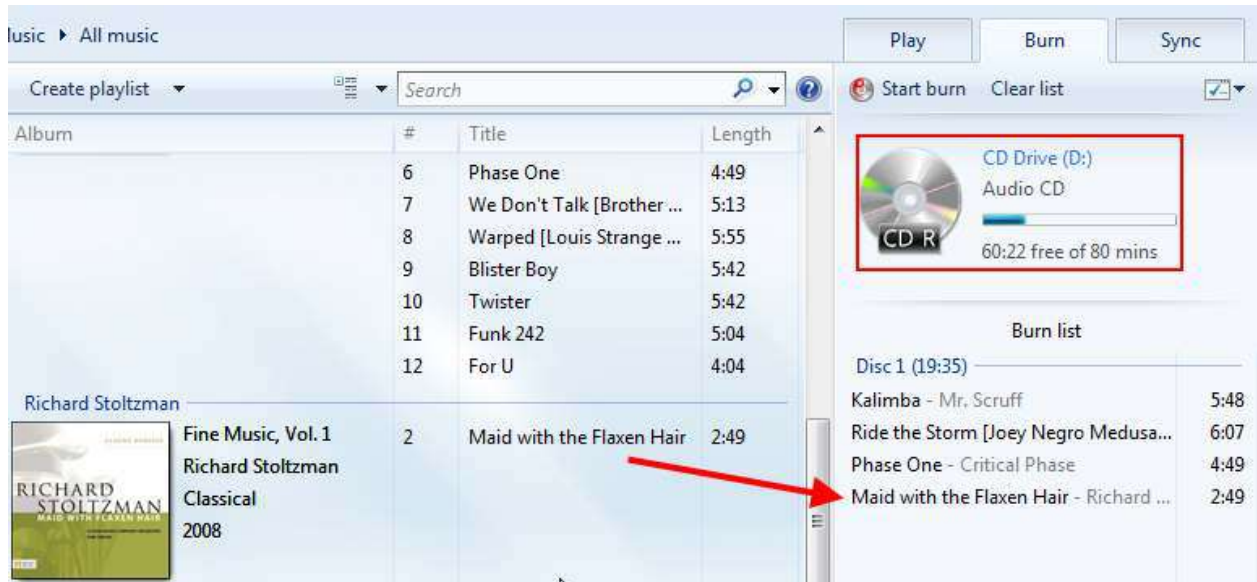
To start, insert a blank CD-R into your computer. After a moment, Windows will recognize the disk as a blank CD and present you with some options:



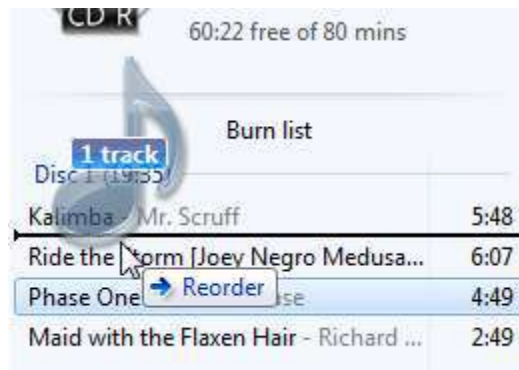
Click “Burn an audio CD” to continue. This will open Windows Media Player and open the Burn pane on the right-hand side:



Next, click and drag items from your Music library (or other locations) to this list on the right:



As you drag items to the list, you will see how much time is remaining on the CD. While you are creating your list of songs, you can easily reorder the tracks by clicking and dragging items in the list:



When you have finished compiling your list of tracks to burn, click "Start burn:"



The burning process will take anywhere from a minute to about 4-5 minutes, depending on how much information you are adding to the disc:



Once the burn process is complete, the CD will be ejected from your computer. You can re-insert the disk and play it with Windows Media Player.

### **Closing Windows Media Player**

Close Windows Media Player by clicking the Close button:



## Lesson 2.3: Windows DVD Maker

DVDs are a commonplace part of modern computing. You might even say that DVDs have become more popular than CDs as a storage medium because they can hold so much more information. Many programs and games you can purchase for a computer will likely come on a DVD instead of a CD. (DVD commonly stands for Digital Video Disc, though the media is properly known as Digital Versatile Disc.)

Windows 7 includes Windows DVD Maker, an all-inclusive program that lets you create professional-looking home movies, complete with picture slide shows and a full menu system.

### Opening Windows DVD Maker

Windows DVD Maker is found in the All Programs folder of the Start menu:



#### **At-a-Glance: *Windows DVD Maker***

- Click Start → All Programs → Windows DVD Maker
- Create DVDs in standard or widescreen view; add pictures, music, and a menu system; burn for use on NTSC or PAL DVD players.

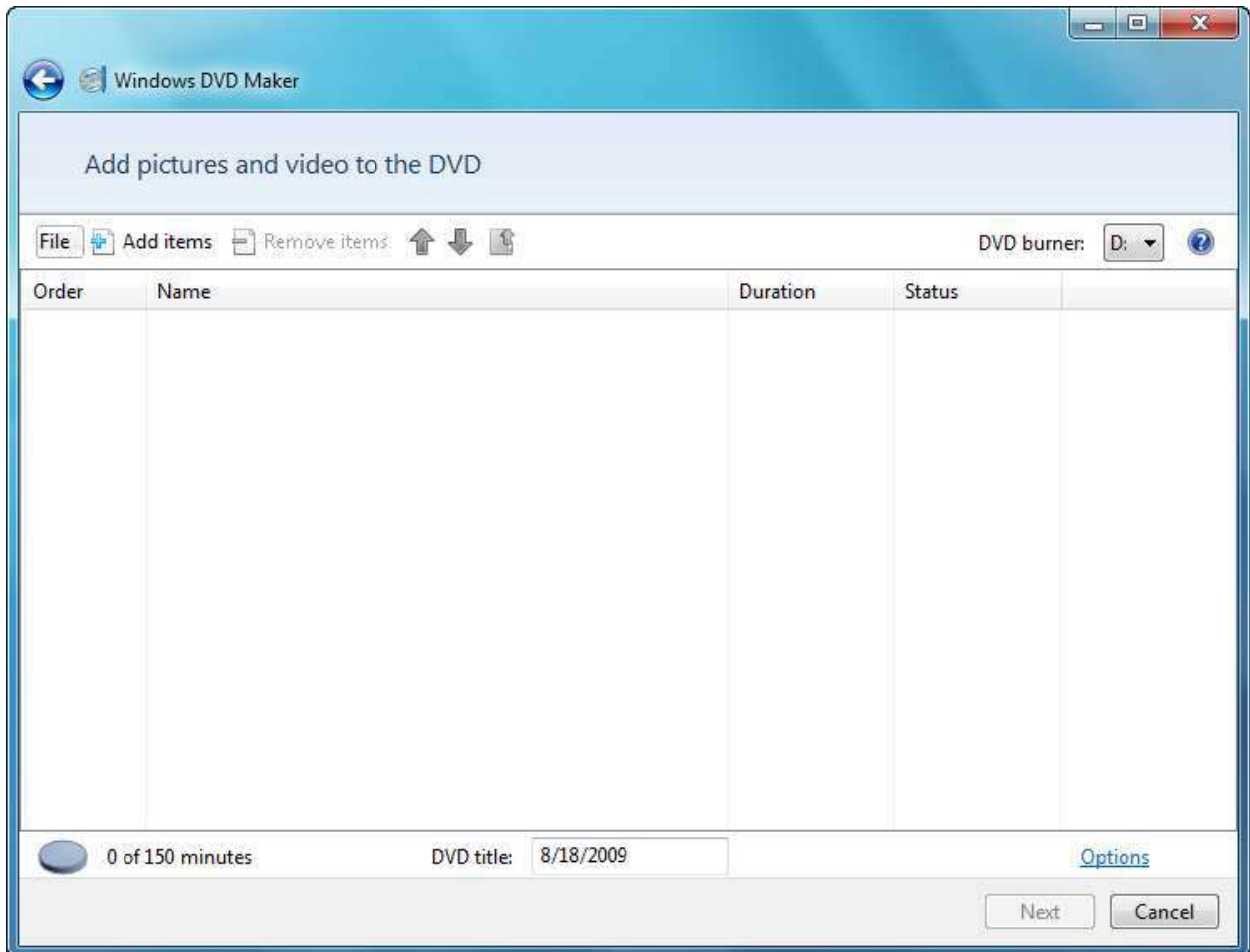
Windows DVD Maker shows you a welcome screen explaining some of the features of the program. Click the Choose Photos and Videos button to launch the program. If you would rather not see this welcome screen again, leave “Don’t show this page again” checked:



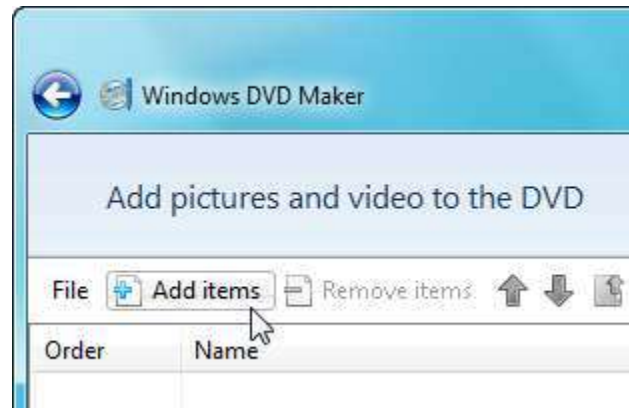


## Adding Content to your DVD

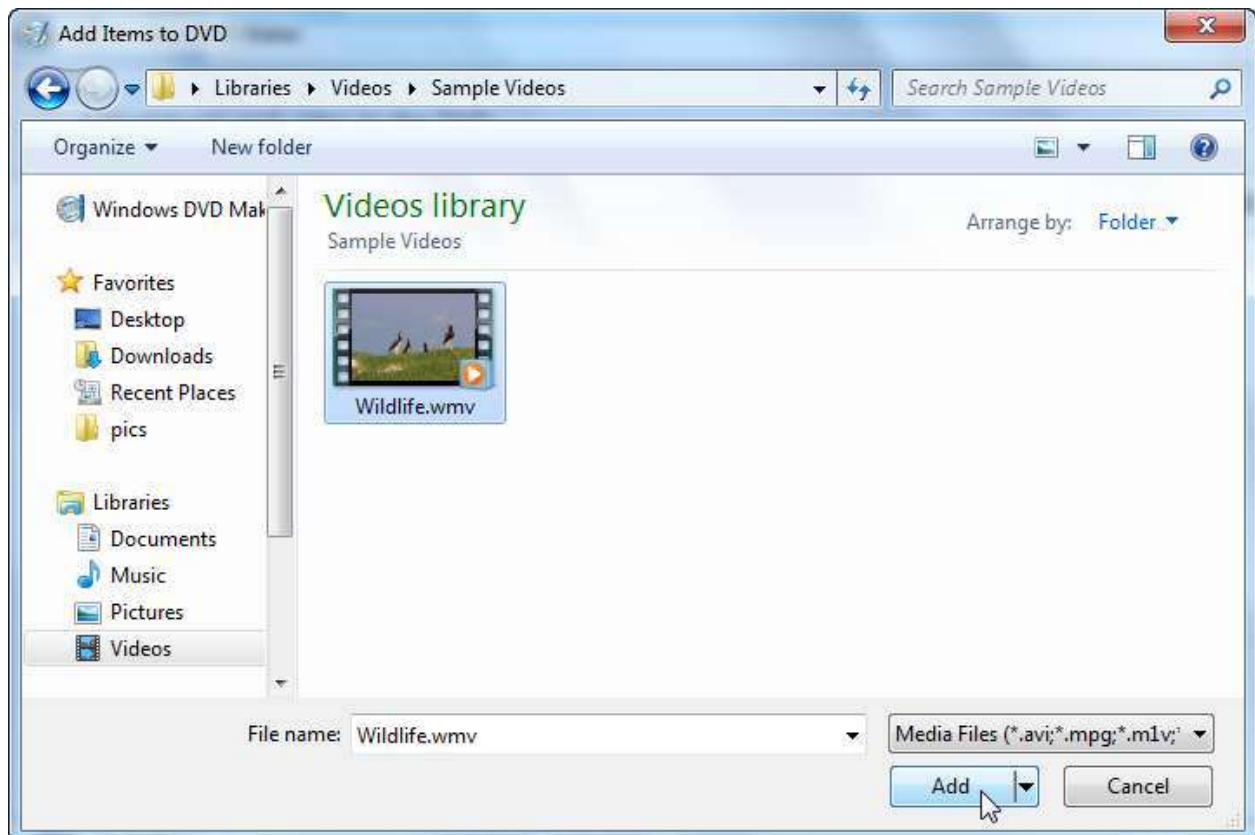
The first screen of Windows DVD Maker allows you to add pictures and video content to your DVD:



Click the “Add items” command at the top of the screen:

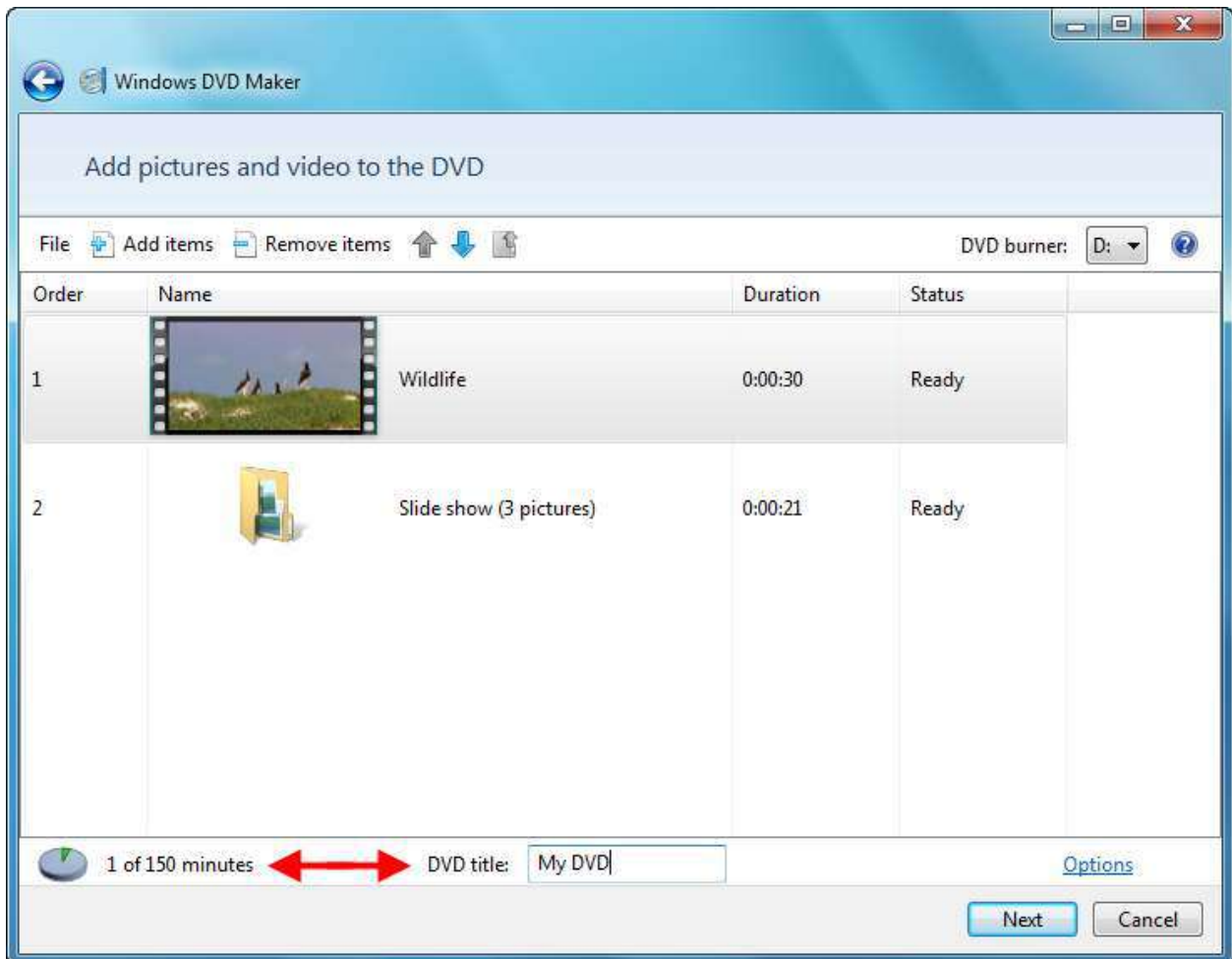


Next, locate content and add it to the DVD. Here, we will add the sample movie from the Videos library and click Add:

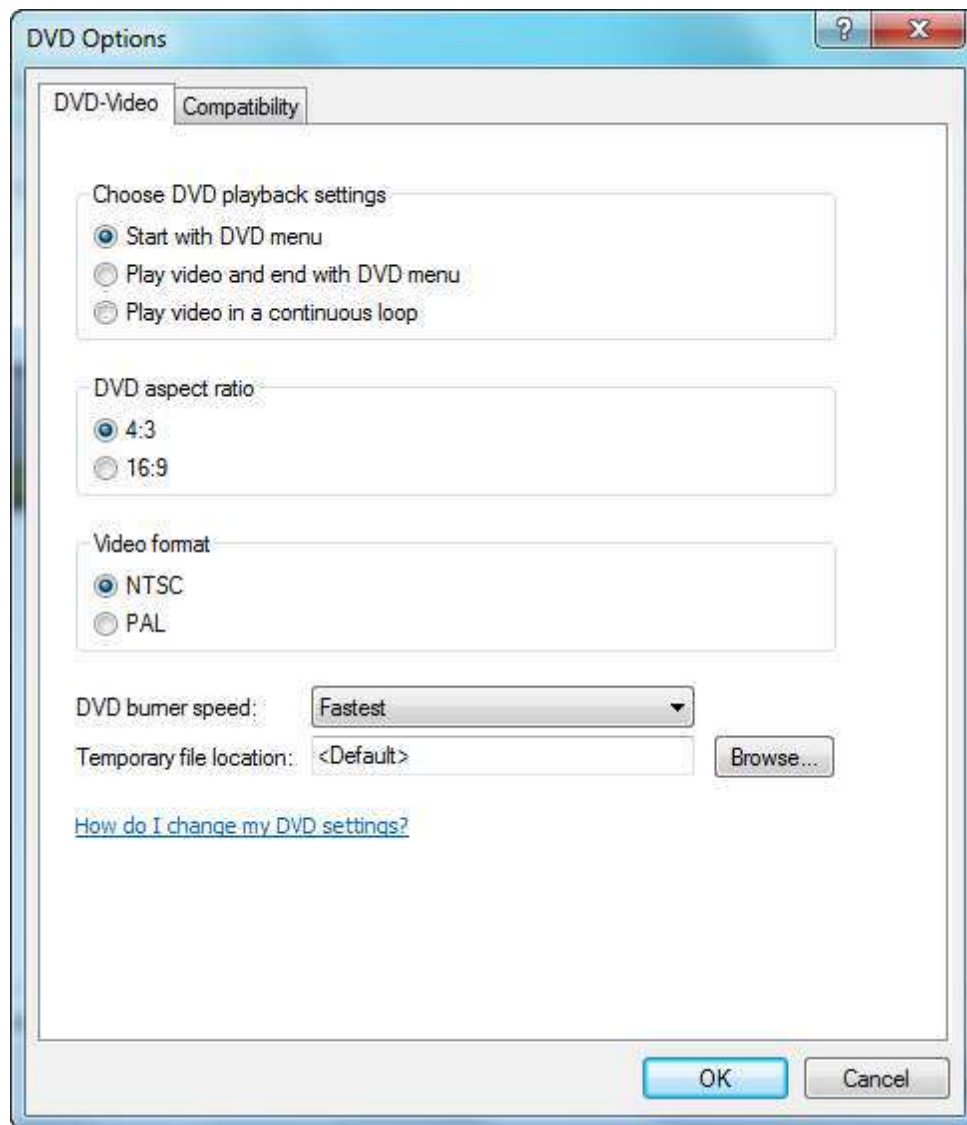


We will repeat this process to add some pictures from the Pictures library.

As content is added to the DVD, you will see a small icon gradually fill up the closer you get to the limit of what the DVD can hold. You can also add a title to the DVD in the Disc title box:



Click the Options link on the right-hand side of the screen for more options relating to the creation of your DVD:

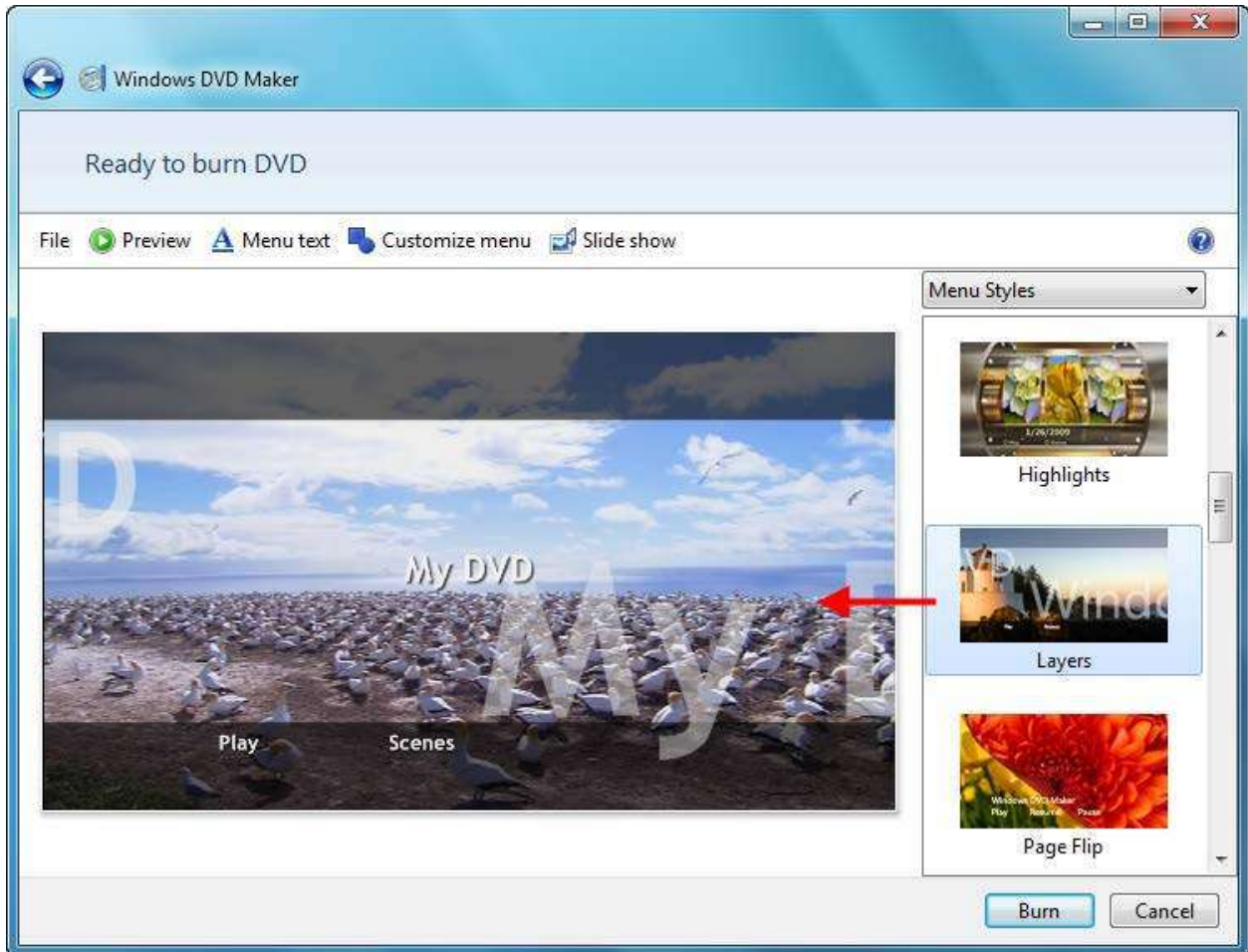


Make any changes you require and then click OK.

When you have finished adding files to the DVD and specified your options, it's time to add a menu to your DVD. Click Next to continue.

## Adding and Customizing Menus

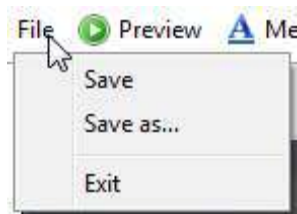
Now that all of your content has been added, you can choose how you want your DVD to be presented. Under the Menu Styles heading, there are many different options for menus. Scroll up and down the list to see the options and click any option to see a preview of that style:



The menu bar at the top of the screen provides further options for your DVD:

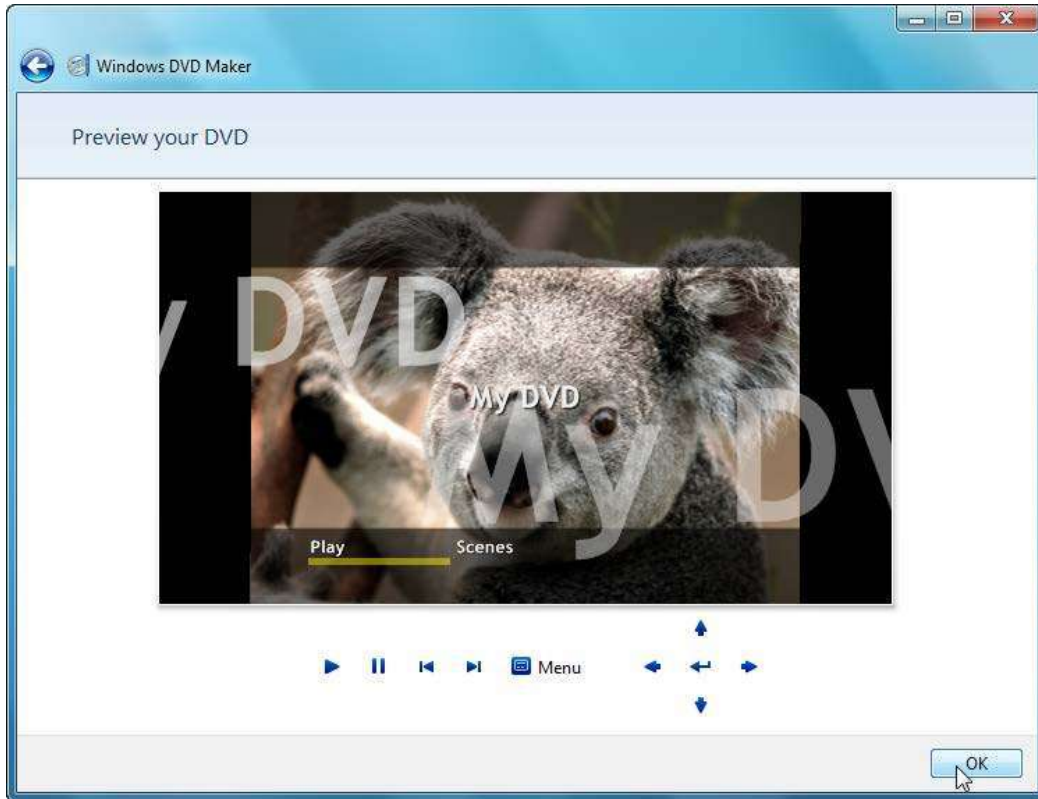
### File

The File command lets you save the current DVD project for use later on:



## Preview

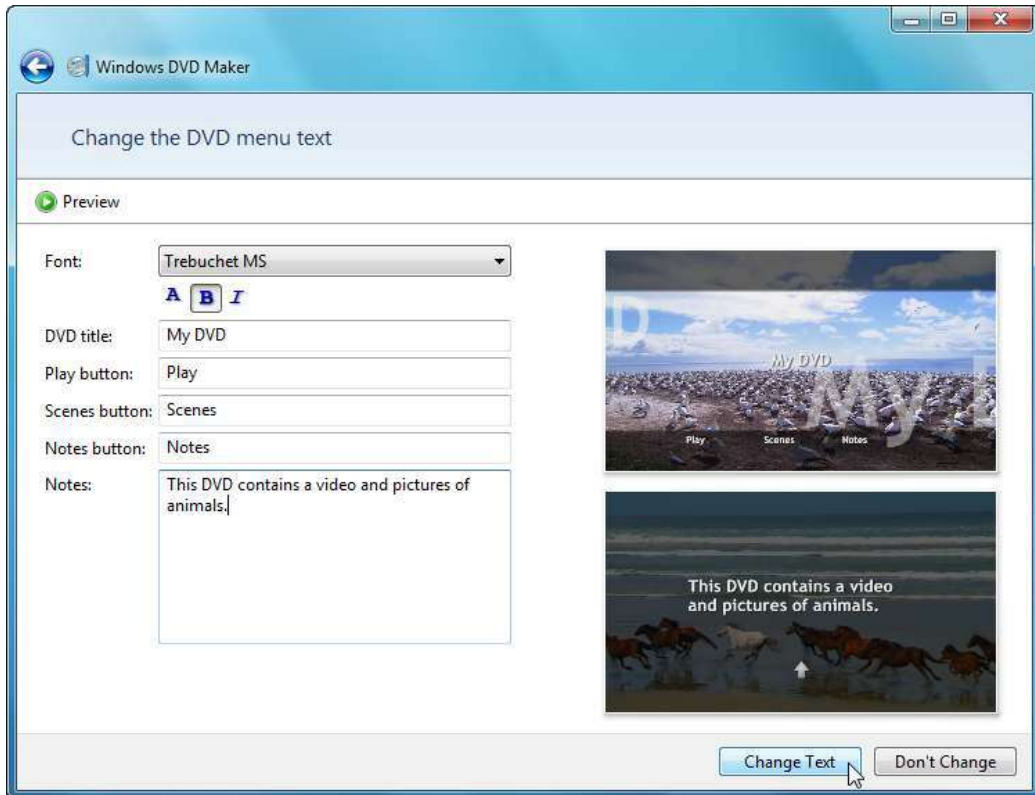
The Preview command will create a virtual DVD player on your computer that will let you see your entire production before committing it to a DVD. While in Preview mode, you can use all DVD menu features just as you would if you were watching the DVD on a DVD player:



Click OK to exit Preview mode.

## Menu Text

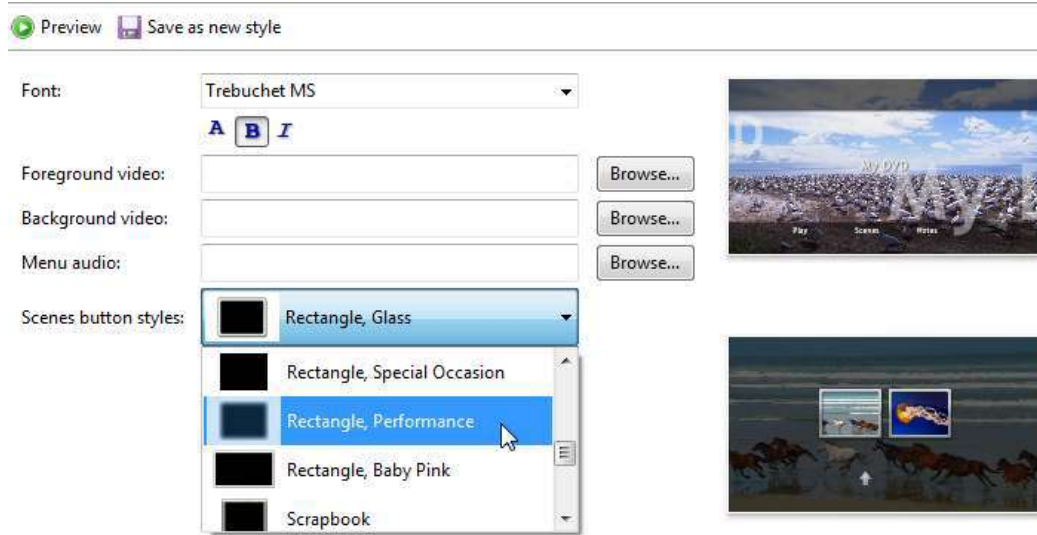
Customize any of the menus in your DVD with this command. Text can be in any font, as well as bold or italicized. As you change information in the text boxes, Windows DVD Maker will show you a preview of the text:



Click the Preview command at the top to see a larger version of your DVD with any changes you have made. If you are satisfied with the changes, click the Change Text button at the bottom of the screen.

### Customize Menu

The Customize Menu command lets you control how certain aspects of the menu will look. You can add a video to play in the background, and even add a music file to play while the DVD menu is displayed. You can also choose from a wide variety of styles that DVD menu videos can be displayed inside:

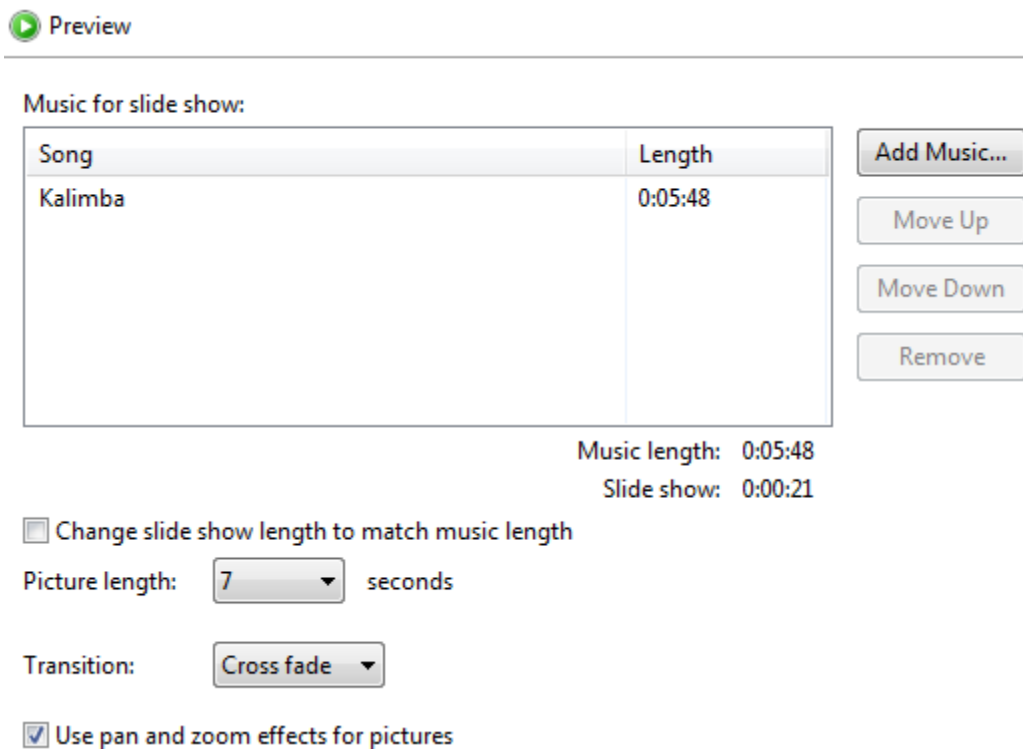


If you plan to create a lot of DVDs in the future and have created a style you like, click “Save as new style” at the top of the window.

When you are ready to proceed, click Change Style at the bottom of the window.

### Slide Show

Any pictures that were added as content for your DVD are grouped together when they are displayed on the DVD. You can add music files to play while your slide show is running, control how often pictures are cycled, and change the transition between images.





Finally, click Change Slide Show to commit the changes for your images.

You're now ready to burn the DVD.

### **Burning the DVD**

Once you are satisfied with the layout of your DVD and you have verified it using Preview mode, insert a recordable DVD, and click the Burn button in the bottom right-hand corner of the window.

Windows DVD Maker will first compile the disc to an image file and store it on your hard drive:



Then, the image file will be burned onto the DVD:



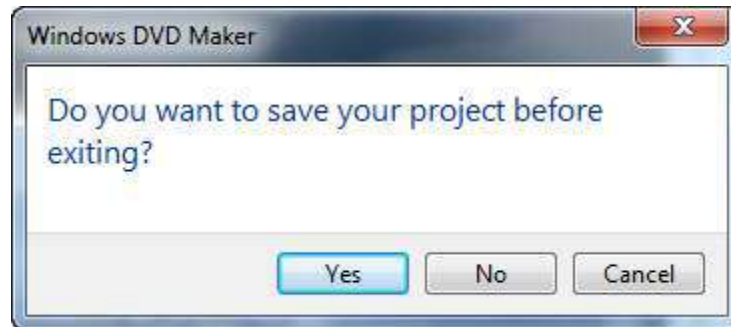
Once the disc has been burned, you will be given the option to make another copy:



Click Close to return to Windows DVD Maker.

## Closing Windows DVD Maker

You can close Windows DVD maker by clicking the Close button or clicking File → Exit. You will be prompted to save your project:



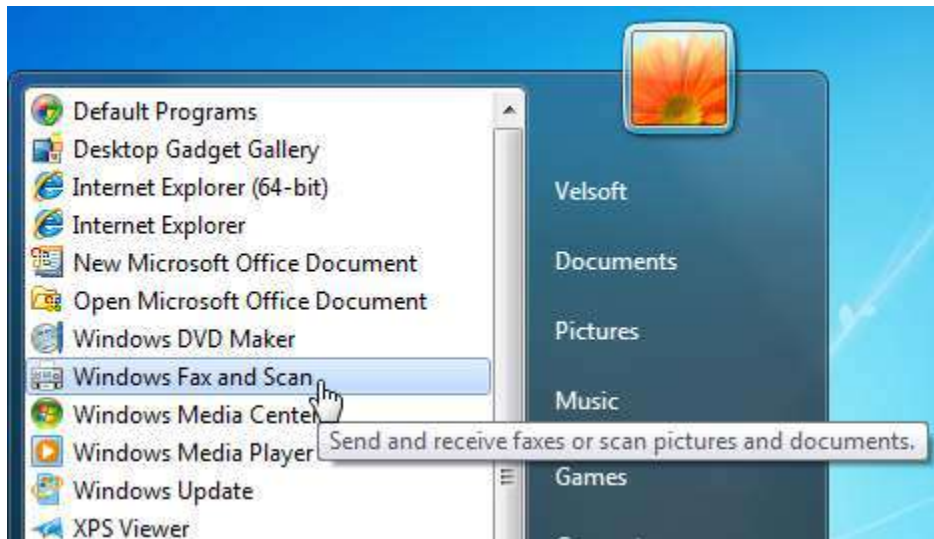
Click Yes to save the project or click No to close Windows DVD Maker.

## Lesson 2.4: Windows Fax and Scan

If your computer is connected to a phone line and has a scanner installed, you can use Windows Fax and Scan as a central place to perform both operations. Using Windows Fax and Scan to send and receive faxes eliminates the need for an extra machine in your office. You can use a printer to print off only the faxes that need filling out, eliminating extra paper waste and cost to your company. In this lesson, we'll learn all about Windows Fax and Scan.

### Opening Windows Fax and Scan

Windows Fax and Scan is located in the All Programs folder of the Start Menu:



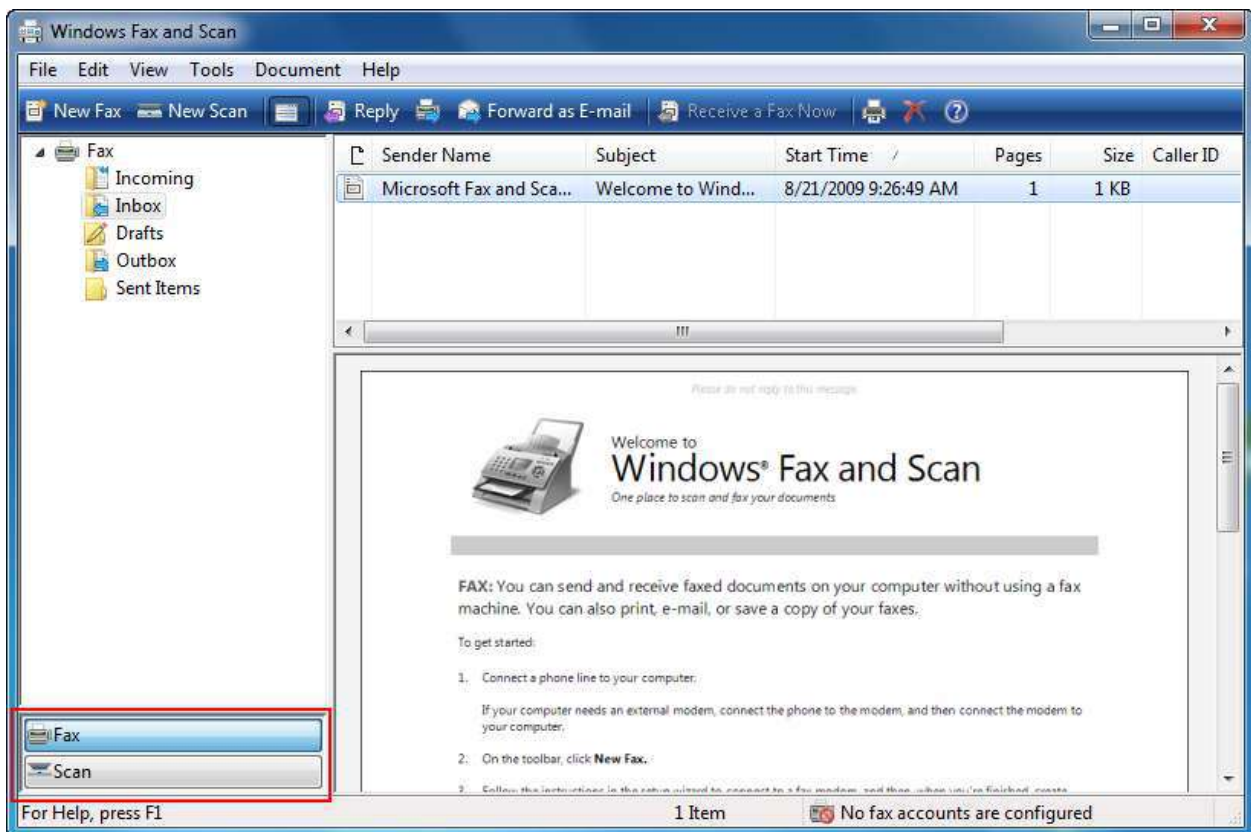
#### **At-a-Glance: *Windows Fax and Scan***

- Click Start → All Programs → Windows Fax and Scan
- Full-featured color/grayscale scanner interface. Create and send faxes via internal fax modem or networked/subscription fax service.

## Fax and Scan Overview

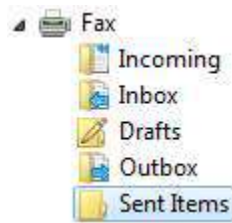
When you open Windows Fax and Scan, the interface should look fairly familiar. There is a menu bar and command bar across the top, a navigation pane down the side, a list of received faxes or scans, and a place to preview the fax or scan.

Let's review the commands used by the fax portion of the program first. You can switch between Fax and Scan modes by clicking the appropriate button in the bottom left-hand corner of the window:



The Navigation Pane on the left contains some different folders for managing your faxes. Any incoming faxes are stored in the Incoming folder, and received messages are kept in the Inbox. The Drafts folder lets you work on a message and save it for later, while the Outbox contains items that are ready to send or in the process of transmitting.

Windows Fax and Scan also keeps a record of transmitted items and saves them in the Sent Items folder:



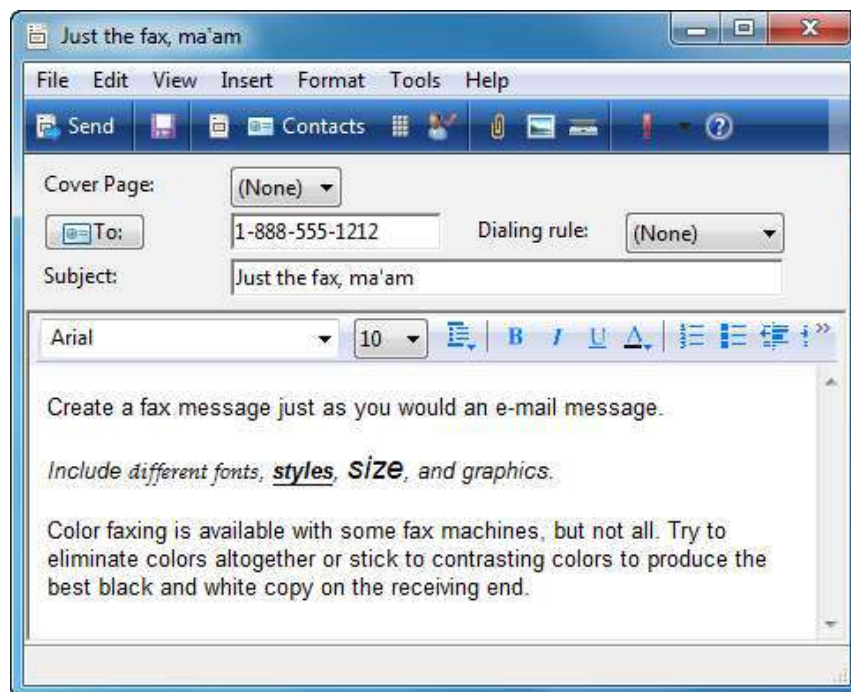
Let's go over the various parts of the window, starting with the Command Bar:



## New Fax



Creates a new fax message just like you would create a new e-mail message. The advantage of sending a fax this way is that you don't lose as much image or text quality by first scanning a piece of paper before transmitting:

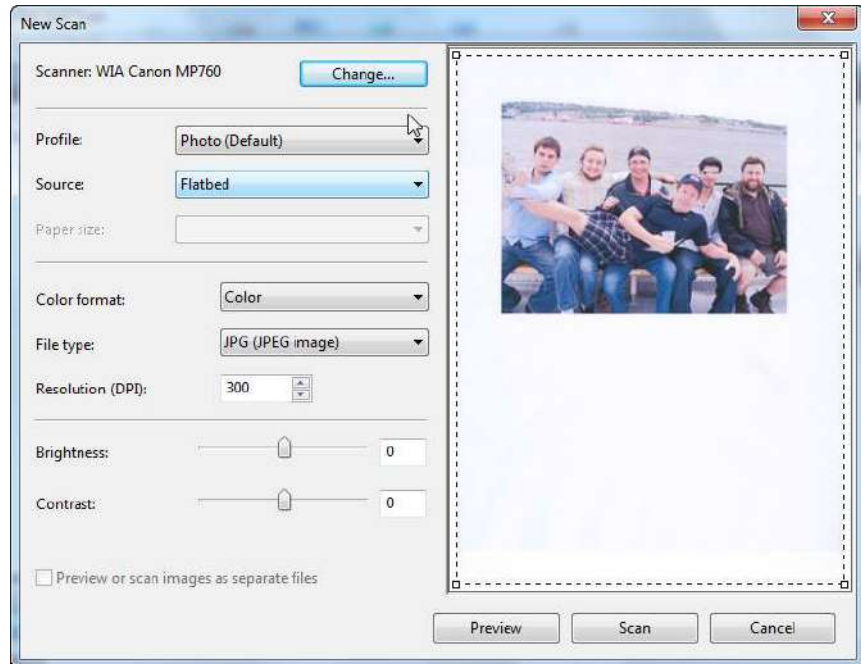


Command	The Button	Description
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**New Scan**



Click this command to open a new scanning window. Here you can adjust scan settings including the scanner to use, color information, output type and resolution, and more:



**Preview Pane**


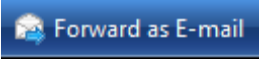



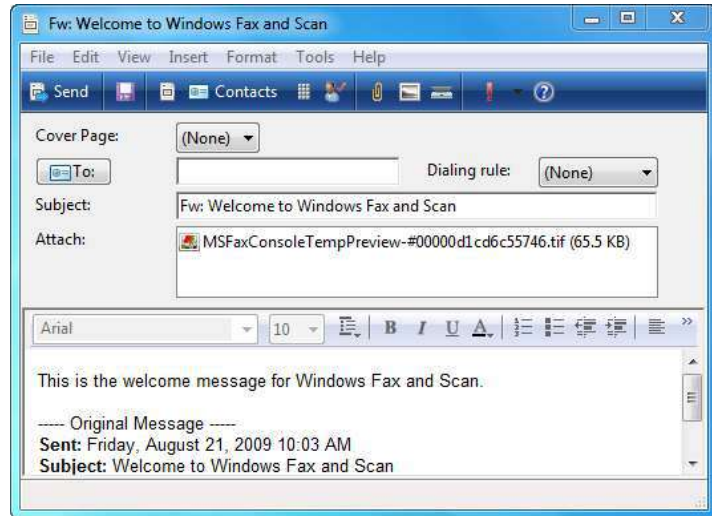
Click this command to enable or disable the Preview Pane, a special part of the main window that shows you the contents of a fax or scan without opening the item in a new window.

**Reply**



Send a reply fax to the sender with this command, just as you would with an e-mail message.

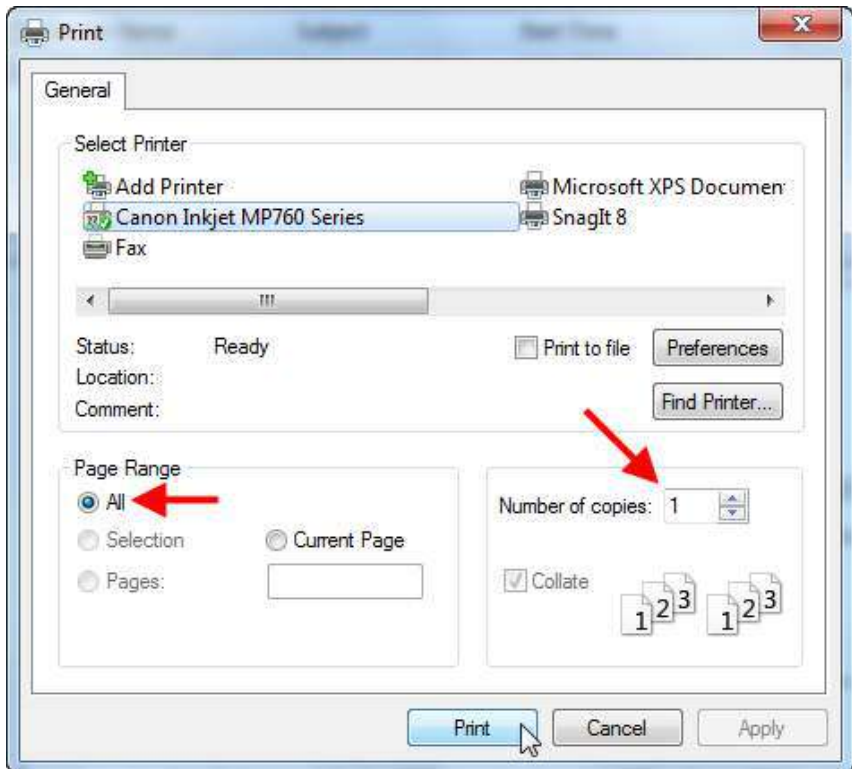
Command	The button	Description
<b>Forward as Fax</b>		Take the existing fax message and forward it to someone else. The old message will be saved as a TIF graphic file and sent as an attachment to the fax. This means the fax will send a new message (if you add one) and then send the original fax message:
<b>Forward as E-mail</b>		Instead of faxing the message to someone else, e-mail a new message instead. As with a forwarded fax, the original fax message will be saved as an image file and attached to the e-mail. Your default e-mail program will open and let you send the fax to someone else.
<b>Receive a Fax Now</b>		If your computer has been set up to receive faxes only when you allow it (instead of having the computer receive all faxes automatically), click this link to answer the incoming fax and receive the message manually.





**Command**      The Button      Description**Print**

If you want a hard copy of the fax you have received, click the Print command. Specify the pages to print and how many copies you would like, then click Print:

**Delete**

Highlight the fax(es) to delete and click this command to erase them from your computer. Keep in mind there is no Deleted Items' folder like there is with an e-mail program, so make sure you do want to delete the message.

Command	The Button	Description
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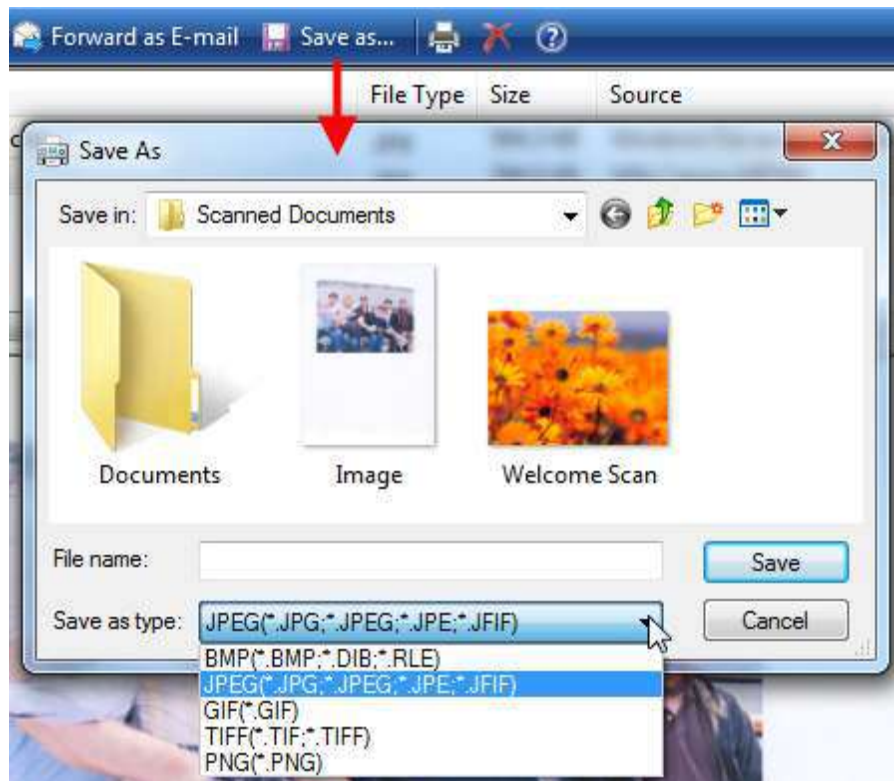
Help
------



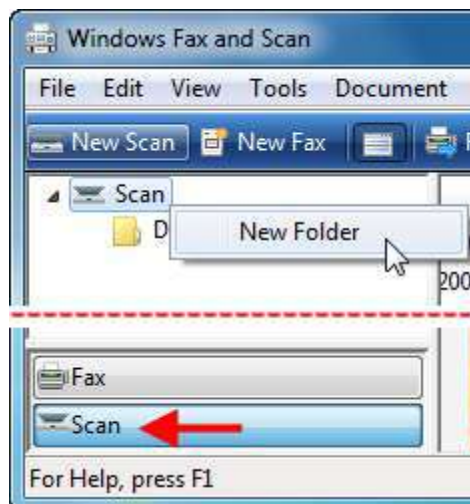
Click this command to open a special section of Windows Help and Support dealing with Windows Fax and Scan:



The interface changes only slightly when the program switches to scan mode. A new command is added to the Command bar that allows you to save the scanned image as a different file type:



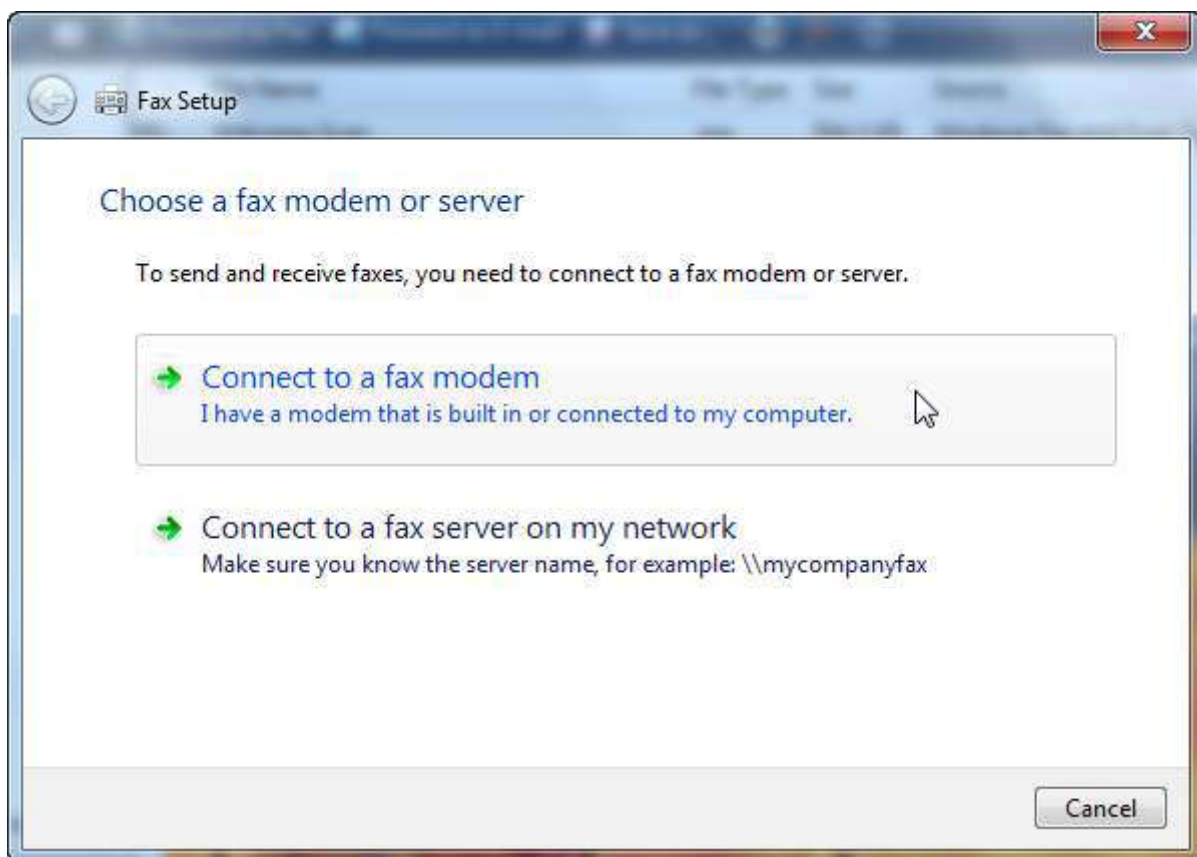
The Navigation Pane also changes to reflect a simpler file scheme. By default, all scanned images are saved to a Scanned Documents folder in the Documents library. However, you can add a new folder to store your scans by right-clicking the Scan item in the Navigation Pane and clicking New Folder:



## Setting up a Fax Account

Not everyone can plug into a phone line and be able to send faxes. It must first be a service that has been assigned to the phone line you will be using. You must contact your telephone service provider and request that a fax service be installed on your line. Once this has been done, your service provider will either give you a separate fax number or set up a distinctive ring service to differentiate fax calls from voice calls on your line. Many larger companies have a fax server on their company network (a computer that is set up to only accept incoming fax messages). Windows Fax and Scan can support both types of services.

When you first click New Fax (or click Tools → Fax Accounts → Add) you will need to set up your fax account. Choose your method of connection:



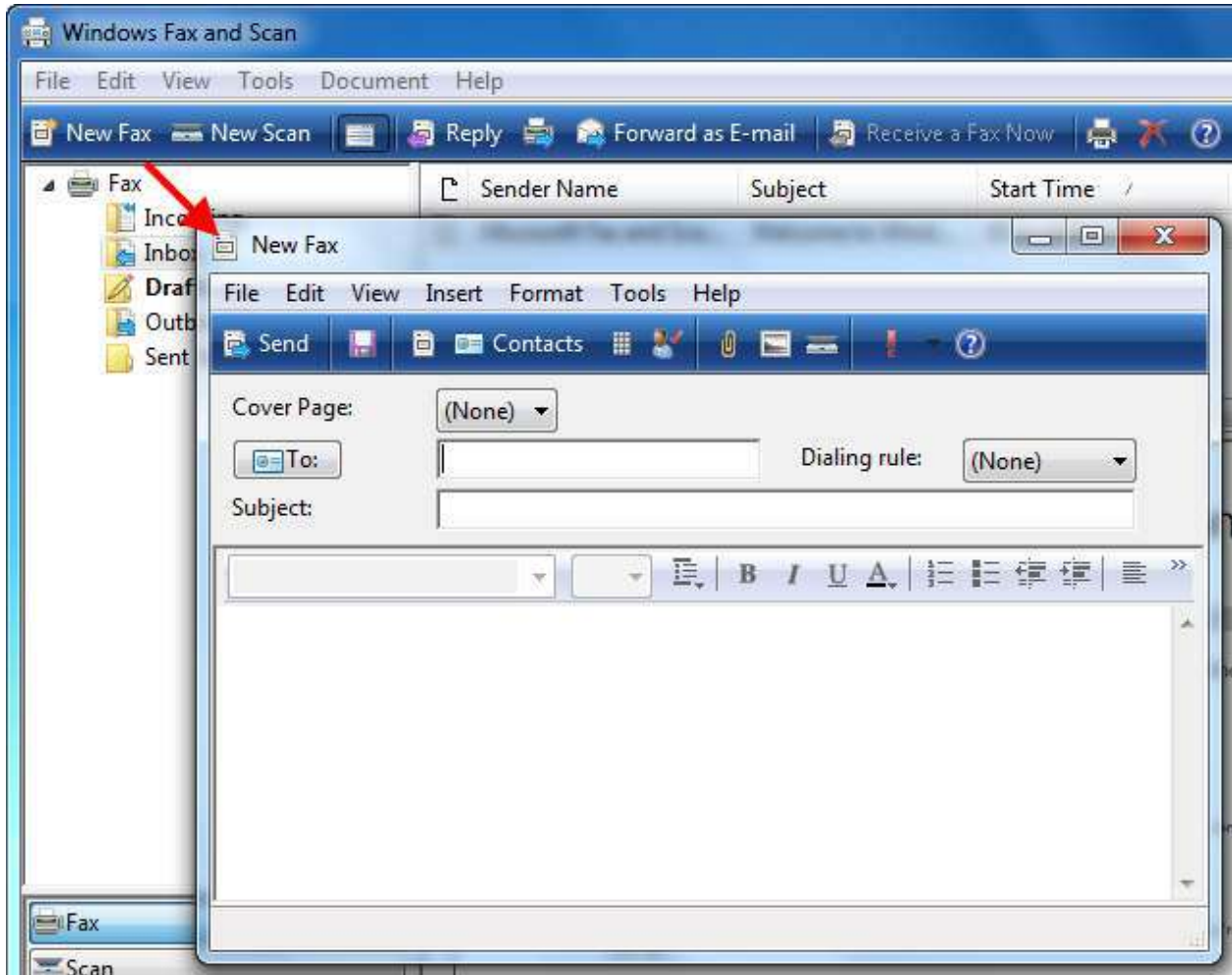
For this example, we will assume that we will be using a fax modem. A fax modem is a special type of expansion card that either is installed physically in the computer or sits as an external box outside of your computer. Either way, the fax-enabled phone line will connect to your computer.

Enter a name for the fax modem connection. Next, select how you would like Windows Fax and Scan to receive incoming faxes. ("Answer automatically" is recommended unless the phone line is used for voice and/or Internet communication as well.)

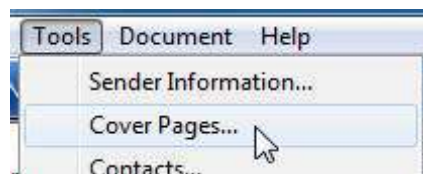
Once the information has been entered, you will be shown a list of fax accounts.

## Using Fax

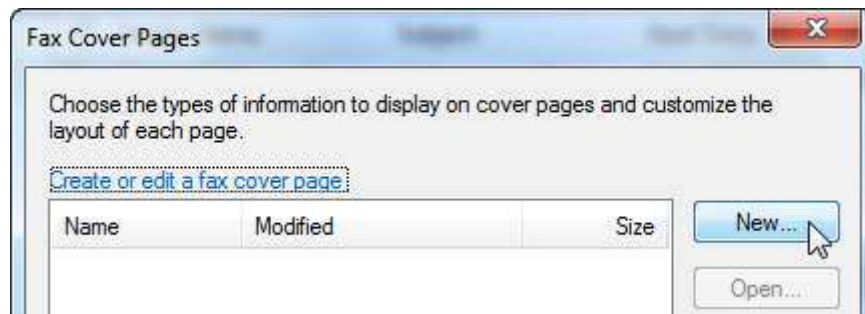
Once your account has been set up, click the New Fax command to open a new fax message:



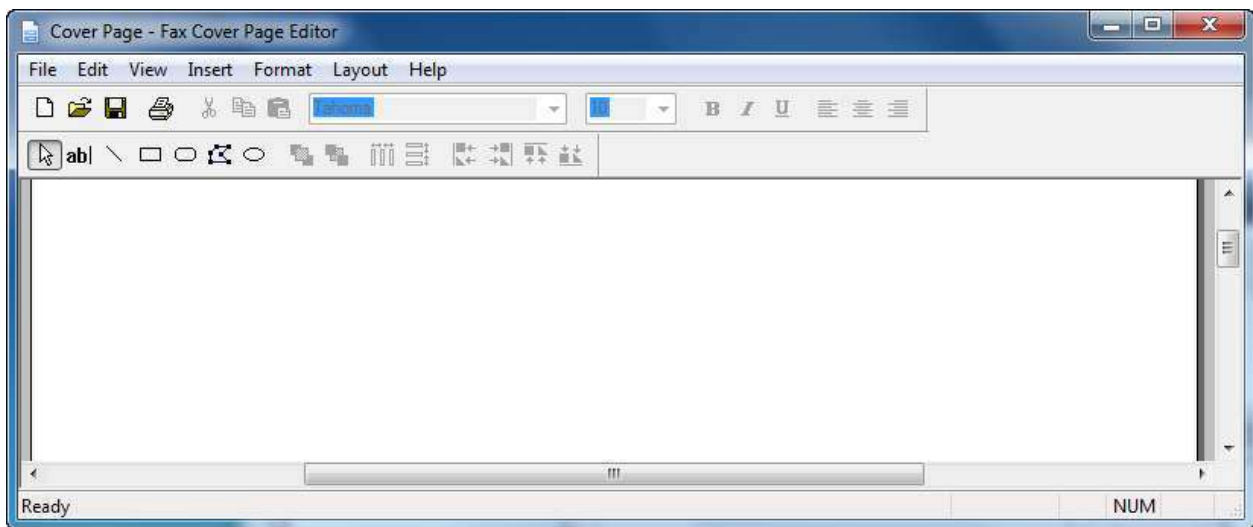
You can include a cover page if you wish. To add a cover page, click Tools → Cover Pages:



When the Fax Cover Pages dialog appears, click the New button:

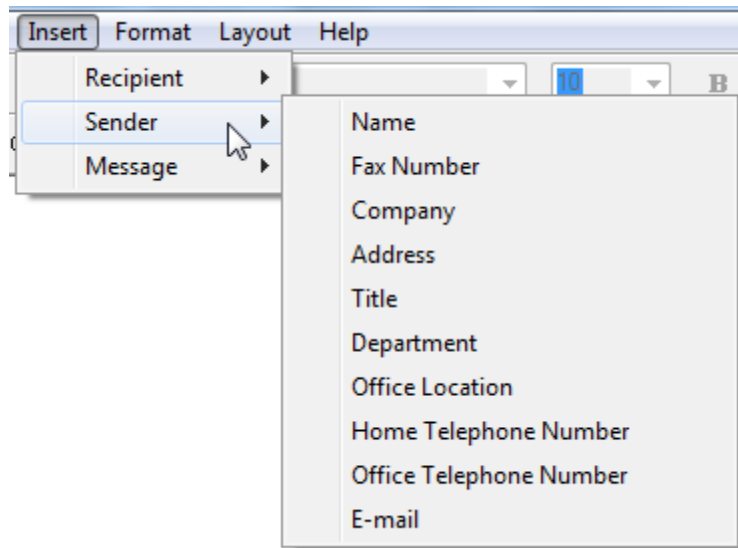


You can now create your own fax cover page using a full-featured desktop publishing program contained within Windows Fax and Scan:

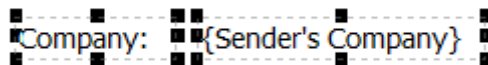


Most of the tools you will use here are on the Insert menu and the toolbar. With the Insert menu, you can insert and then drag and drop various text boxes to include sender and recipient addresses, titles, departments, phone numbers, page numbers, and so on.

To see some of these options, click Insert and then point to Sender:



If you click any of these options, a text box label and text box will appear. You can then click and drag to arrange the items around the screen. For example, if we added the Company field, you will see the following appear on the cover page:



You can edit the Company: field (on the left). The field on the right will automatically include the sender's company when you define a sender and then transmit the fax.

The two text boxes in the image above are both selected. When you move your mouse over a field, your mouse pointer will turn into a 4-headed arrow. You can click and drag a field to move it around the screen and position it where you like. The black boxes all around the outside are handles that you can click and drag to resize the fields:

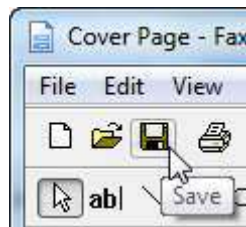


To reselect an object (put the black handles around the outside again), click somewhere in the field. To select many fields at once, hold Ctrl and then click different fields. You can then click and drag many fields at one time for easier positioning of objects in the cover page.

You can change a text field's font, add some lines and simple shapes, and add more fields to create a basic cover page:

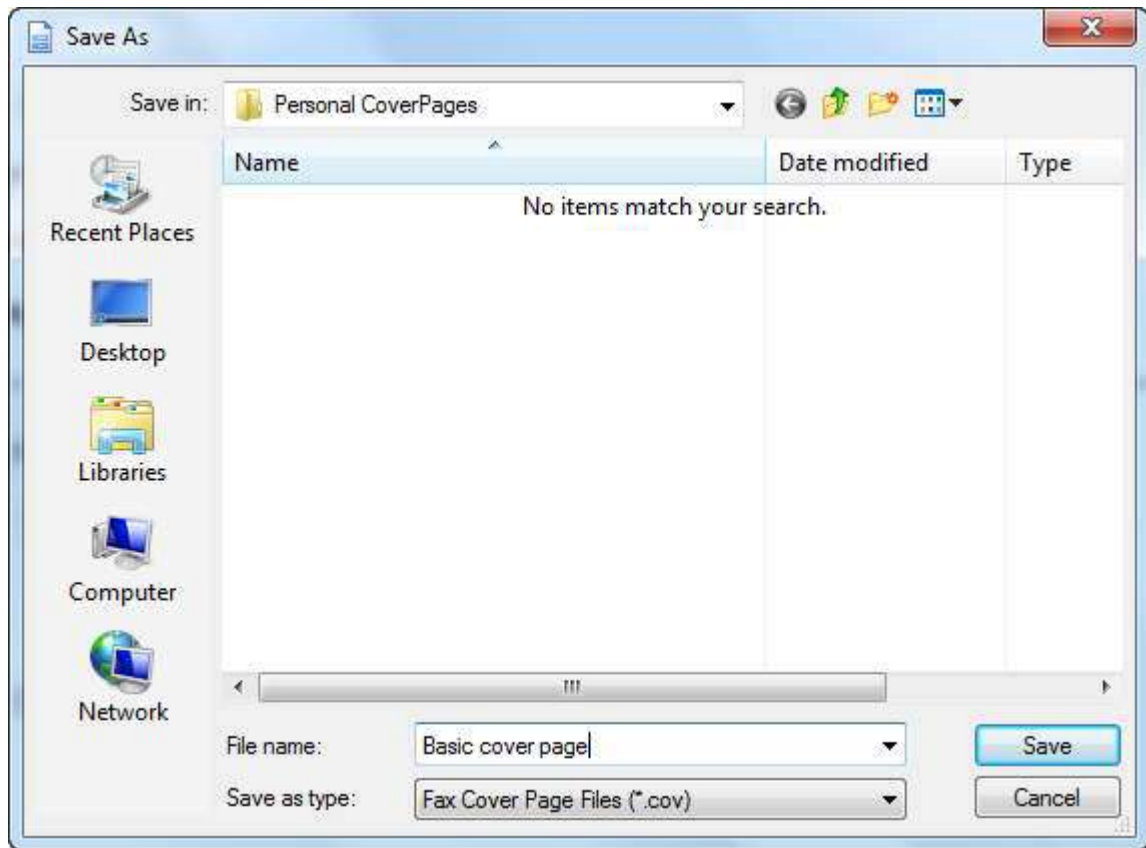
<b>From:</b> {Sender's Name}	<b>FROM</b>
<b>Company:</b> {Sender's Company}	
<b>Department:</b> {Sender's Department}	
<b>Office Telephone #:</b> {Sender's Office Telephone #}	
<b>Recipient Name:</b> {Recipient's Name}	<b>TO</b>
<b>Fax #:</b> {Recipient's Fax #}	
<b>Note:</b> {Note}	

When you have finished creating your cover page, click Save:

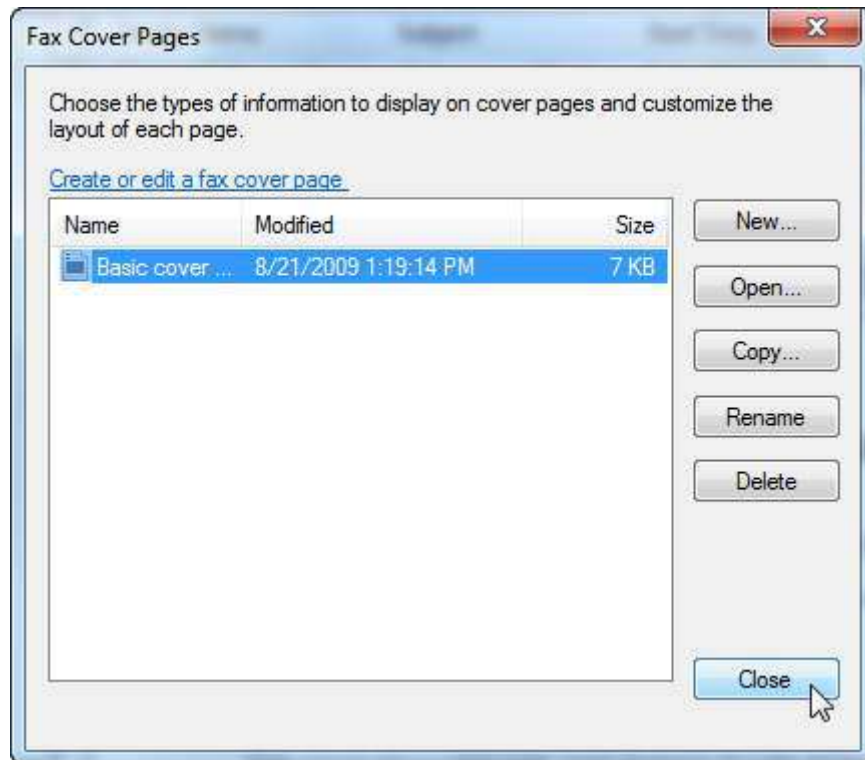




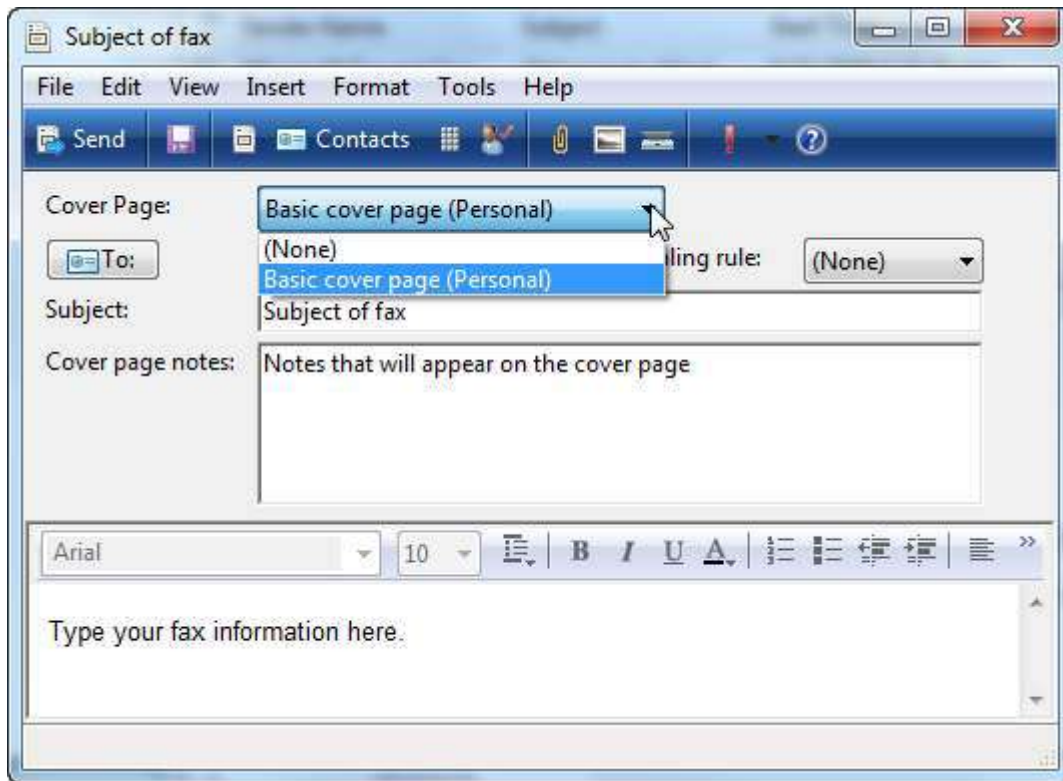
By default, Windows will save the cover page in Documents (library) → Fax → Personal CoverPages. Give the cover page a name and click Save:



After you save the file, close the cover page editor. Your new cover page will now be available for use with your fax message. Click the Close button:








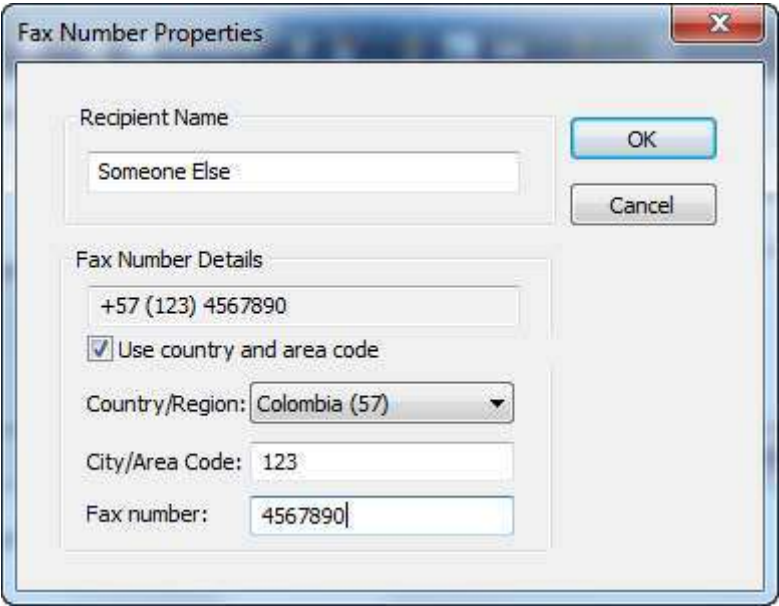



You will have to create a new fax message again as the original one you opened before creating a cover page will have closed. Your new cover page will be available for use:





Once you have completed typing your fax, click Send.

Let's go over the different commands at the top of the New Fax window:

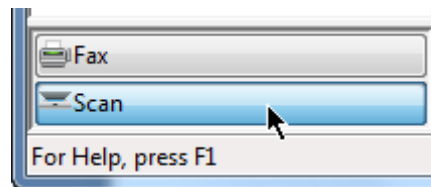
Command	The button	Description
<b>Send</b>		When you have completed your message, click Send to start your computer's fax modem and send the fax, or send the fax to your network fax server. A copy of the message is saved in the Sent Items folder.
<b>Save</b>		Save the unsent message if you need to add more content to it later.
<b>Preview</b>		Click this icon to view a preview of your message in its entirety. Scroll up and down through the different pages of the fax. Use this feature to make sure the text that comes out the other end will be easy to read. If it isn't, try using a different font, a larger font, or bold text. You can also view a picture image of your attachments.

Command	The button	Description
<b>Contacts</b>		Windows Fax and Scan can work together with the Contacts folder in your profile. Click this command to use a name and contact information from your Contacts folder.
<b>Dialing Rule</b>		Use this command to adjust the dialing properties of your recipient. Choose from a large number of countries or a region of the world that you are dialing, and then enter the number. Assign a recipient name for later use – Windows Contacts will retain this number for you:
		
<b>Confirm Recipient</b>		Click this command to cross reference the fax number you have entered with any fax numbers in your Contacts folder. If a match is found, then Windows Fax and Scan will confirm that the number is correct. If a match is not found, a list of possible matches will be suggested from your Contacts folder.
<b>Attach</b>		Attach picture files to your message. You are allowed to add files of any type. However, adding non-text or graphical image files is not recommended unless you are faxing to another computer. Otherwise the files will appear as garbled information, possibly many pages long.
<b>Insert Picture</b>		Use this command to add an image to the body of your message. You can insert many different types of images, but be aware that the images will only transmit in black and white. Windows Fax and Scan does not support the transfer of images in color.

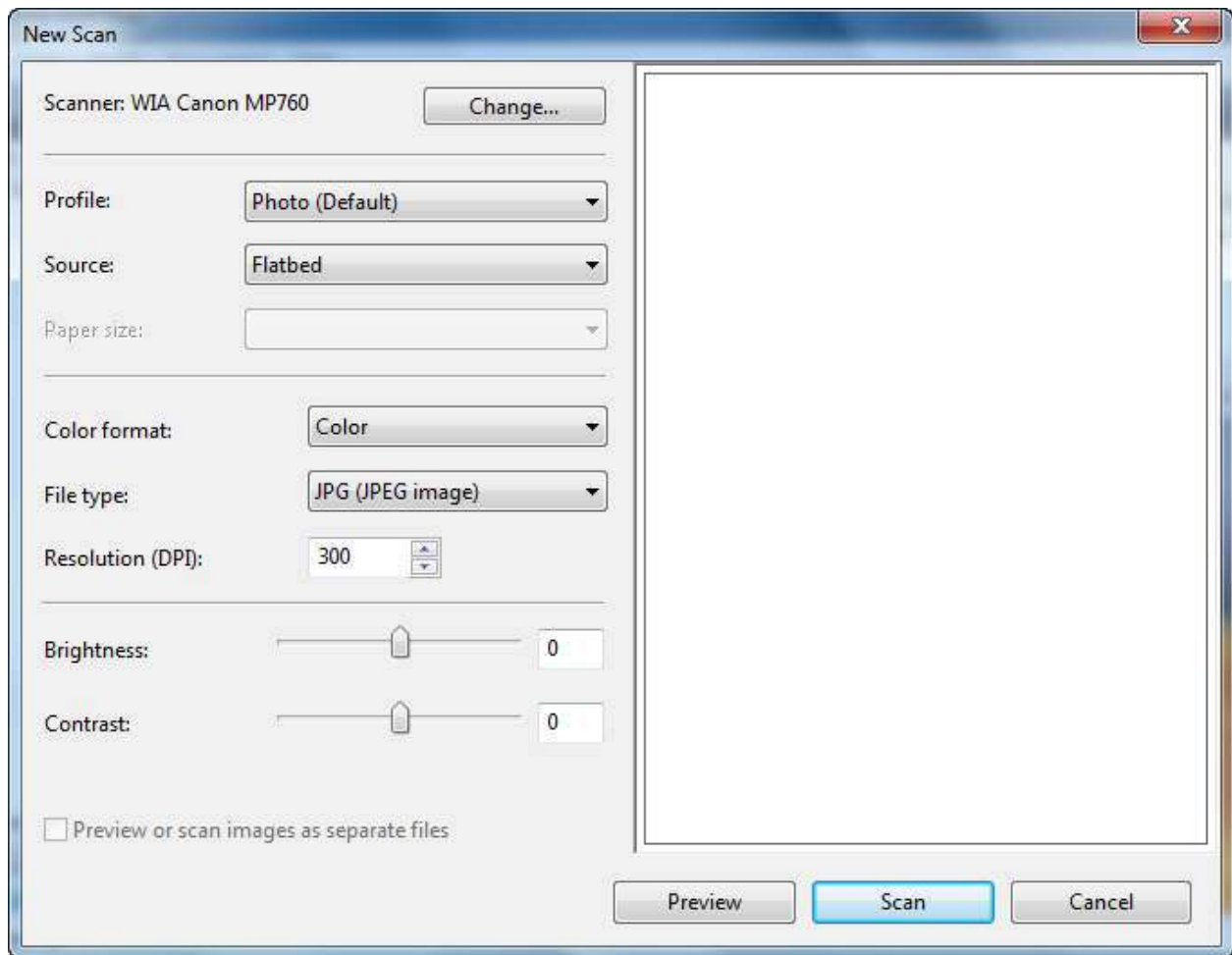
Command	The button	Description
<b>Insert Scan</b>		This command works just like Insert Picture in that you can add an image scan to your message. Click this link to automatically scan the contents of the scanner bed. If you want to scan and then alter an image before faxing it, scan and fix the image first.
<b>Indicate Importance</b>		If you are sending a fax to someone else who uses a computer fax service, you can mark the message as high, normal (default), or low importance. This flag will show up on the other computer fax user's screen indicating that the message requires attention.

## Using Scan

Windows Fax and Scan opens by default in Fax mode. Click the Scan button in the bottom left-hand corner of the window to switch to Scan mode:

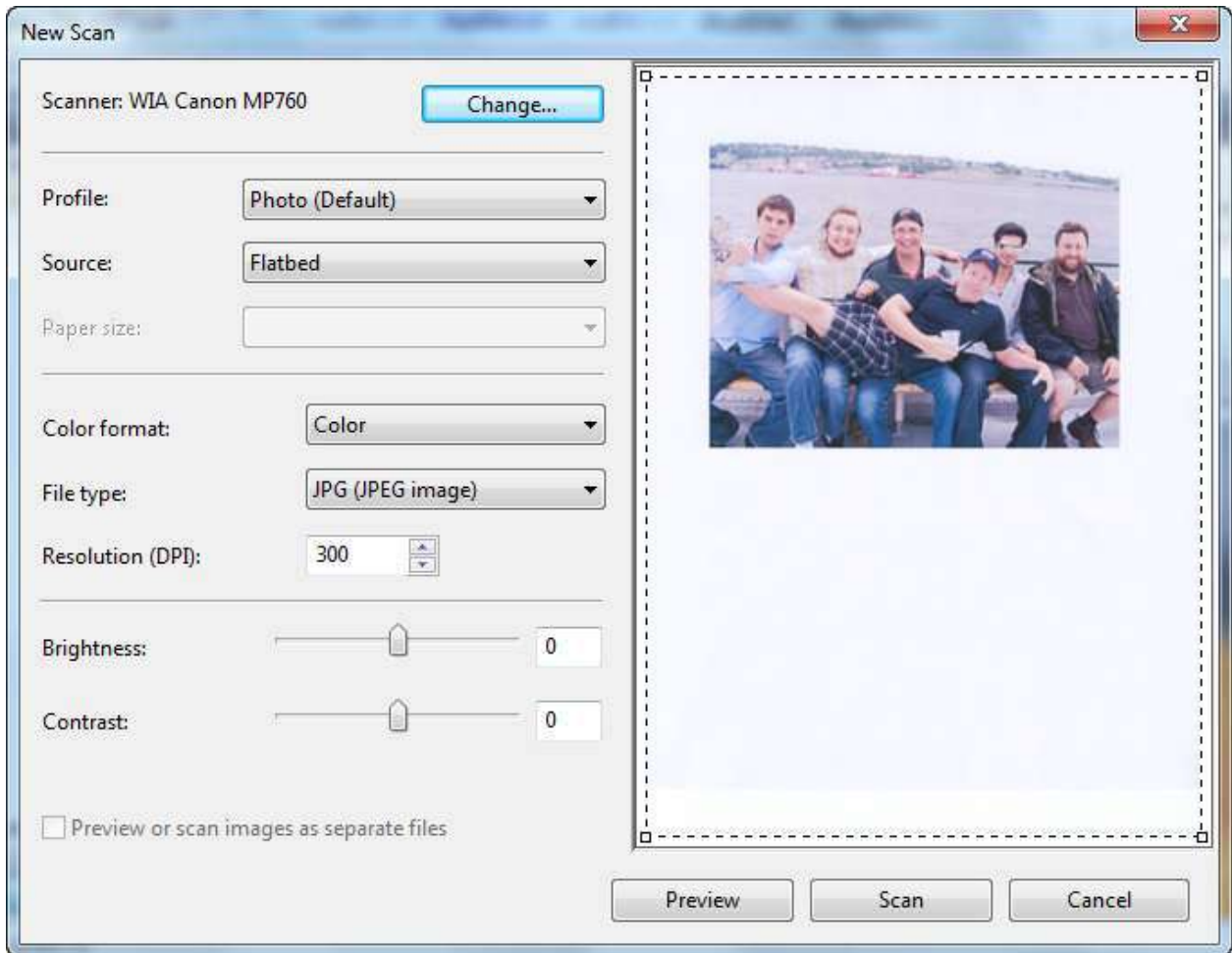


Then, click the New Scan button in the Command bar to open the New Scan dialog box:



Though not required, it is a good idea to first perform a preview scan. This allows you to make changes to the image before the image is committed to a file.

Place something on the scanner bed and click Preview:



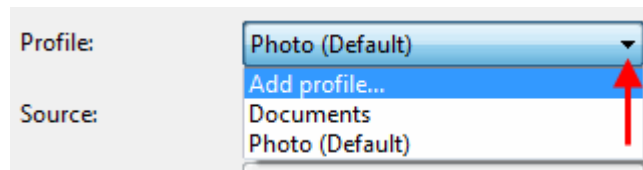
Now that we can see a preview image, let's go over some of the different image adjustments:

### Scanner

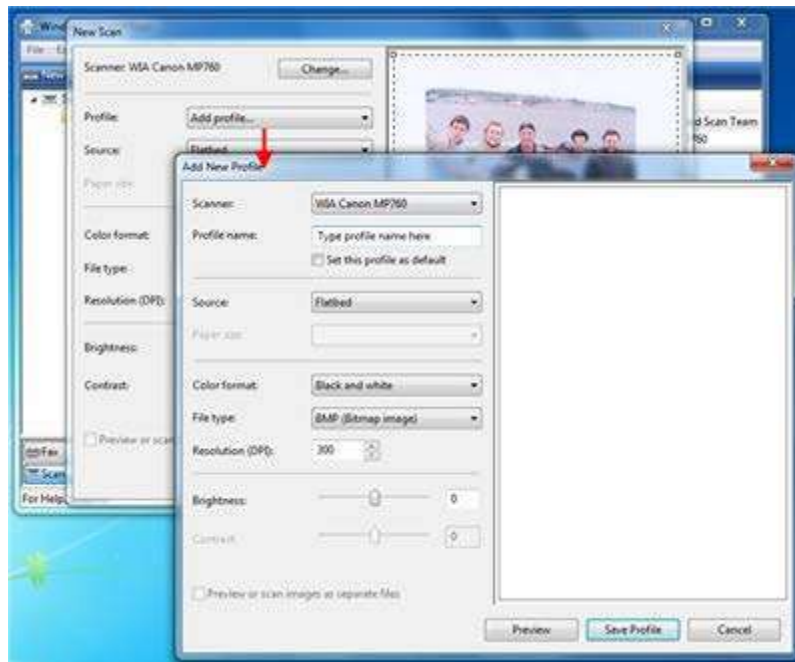
If you have more than one scanning device attached to your computer, such as a regular scanner and a business card scanner, choose which device to use. (If selecting a different device, you will need to click Preview again.)

### Profile

Choose a different scanning profile. Windows Fax and Scan will by default be set up to scan an image in full color, but also has the ability to scan a document. A document scan will scan in grayscale, which will significantly decrease the file size. (White paper with black letters doesn't need a color image!) You can also create your own profile by clicking the Add Profile command:



This will open a new window identical to the New Scan dialog box. Fill in the different settings as you would like to keep them, give the scan profile a name, and then click Save Profile:



### Source

If your scanner has more than one way to scan something, such as a multifunction machine with a flatbed and a paper feed mechanism, choose the source for your scan.

### Paper Size

If your printer is capable of printing on different sized pieces of paper, you can tell Fax and Scan to scan only an area as wide as the paper you are capable of printing upon.

### Color Format



Choose from three different color modes: full color, grayscale, and black and white.

**File Type**

Choose from four different file outputs. The most common types you will use will likely be bitmaps (very good color reproduction but high file size) and JPEGs (slight quality drop compared to bitmaps, but much more common and smaller file size).

**Resolution**

Control how much image quality will be given to an image. 300 DPI (dots per inch) is a standard resolution; 500 or 600 DPI or higher is recommended for printing (though file sizes grow very quickly at higher resolutions).

**Brightness**

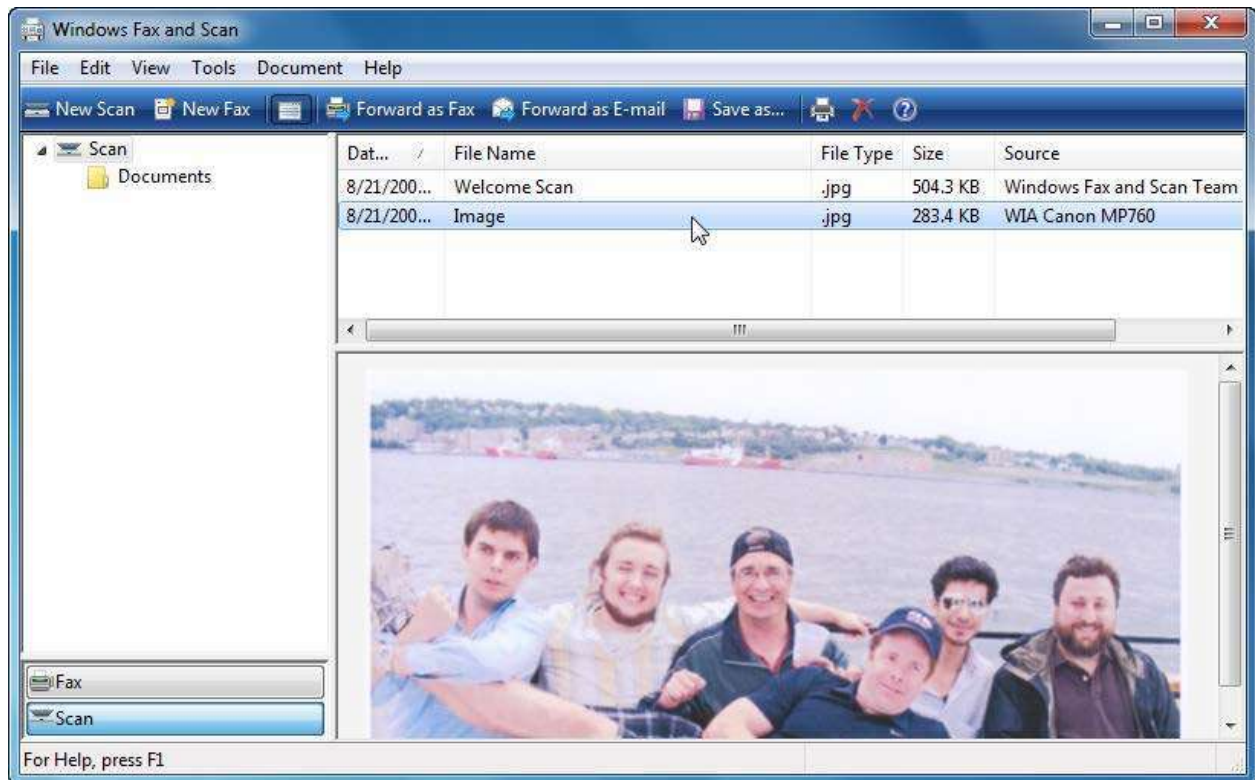
Click and drag the slider to adjust the exposure of the image higher or lower.

**Contrast**

Adjust the sharpness or softness of an image with this control.

When you are satisfied with the preview image and have made all the changes you want to, click the Scan button. After a few moments, your scan will appear in Windows Fax and Scan.

Click the new image file to see it in the Preview Pane:



Click the Save As command in the command bar to choose a different save location and name. If you click the Print command, you will see the Print Pictures dialog box appear. Select a paper size, quality of output, and type of paper using the combo boxes at the top of the window. There is also a listing on the right-hand side of the page that lets you choose different output configurations for the particular paper size you have selected. Specify the number of copies you would like, and then click Print.

## Section 3: Customizing Your Desktop

### In this section you will learn how to:

- Move, lock, unlock, and resize the taskbar
- Customize other taskbar properties
- Interact with and customize taskbar icons
- Add and create toolbars on the taskbar
- Use and customizing the Start menu
- Use the Start menu's pinned list
- Customize your desktop
- Move and sort desktop icons

## Lesson 3.1: Customizing the Taskbar

Now that we have learned more about the programs that come with Windows 7 and how to use them, it's time to learn more about how to configure Windows itself. The default layout is designed to work for most people in most situations, but not everyone may like the functionality or might not need all that the default layout has to offer.

In this lesson and in the following lessons in this section, we will learn about how to customize Windows 7 as you would many other programs.

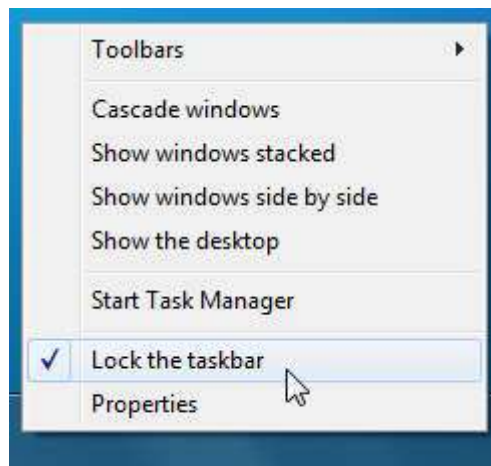
### Locking and Unlocking the Taskbar

The taskbar holds the Start button, displays icons for open programs, tells the time, and displays other information about the computer:



By default, the taskbar is locked. This means it cannot be modified to look or function differently. However, as we explore different concepts in this and following lessons, we will need to know how to unlock the taskbar.

To unlock the taskbar, right-click in an empty area of the taskbar and click Lock the Taskbar to uncheck this field:



Windows 7 doesn't give you any visual indication that the taskbar has been locked or unlocked. You will have to right-click an empty area of the taskbar again to be sure.

## Moving the Taskbar

The Taskbar is a feature that has been around since Microsoft introduced Windows 95. It has always been displayed by default at the bottom of the screen. However, it can be displayed on the left, right, or top of the screen as well, depending on how you like your screen to be set up.

Moving the Taskbar is easy to do. Make sure the taskbar is unlocked and then click and drag an empty part of the Taskbar to the side of the screen of your choice, such as the left side:



As you move the taskbar around, any open windows or icons on the desktop will reposition themselves to account for this change.

If you are satisfied with the location of the Taskbar, we recommend that you lock the taskbar to prevent accidentally clicking and dragging it somewhere else.

## Resizing the Taskbar

If you use many programs at once or use a smaller screen resolution, your taskbar can start to look cluttered. This can make switching between different windows more difficult. With the taskbar unlocked, move your mouse to the top edge until your cursor changes into a double-headed arrow. Click and drag to raise or lower the height of the Taskbar to your liking:



You can take up half of the screen with the Taskbar if you want:

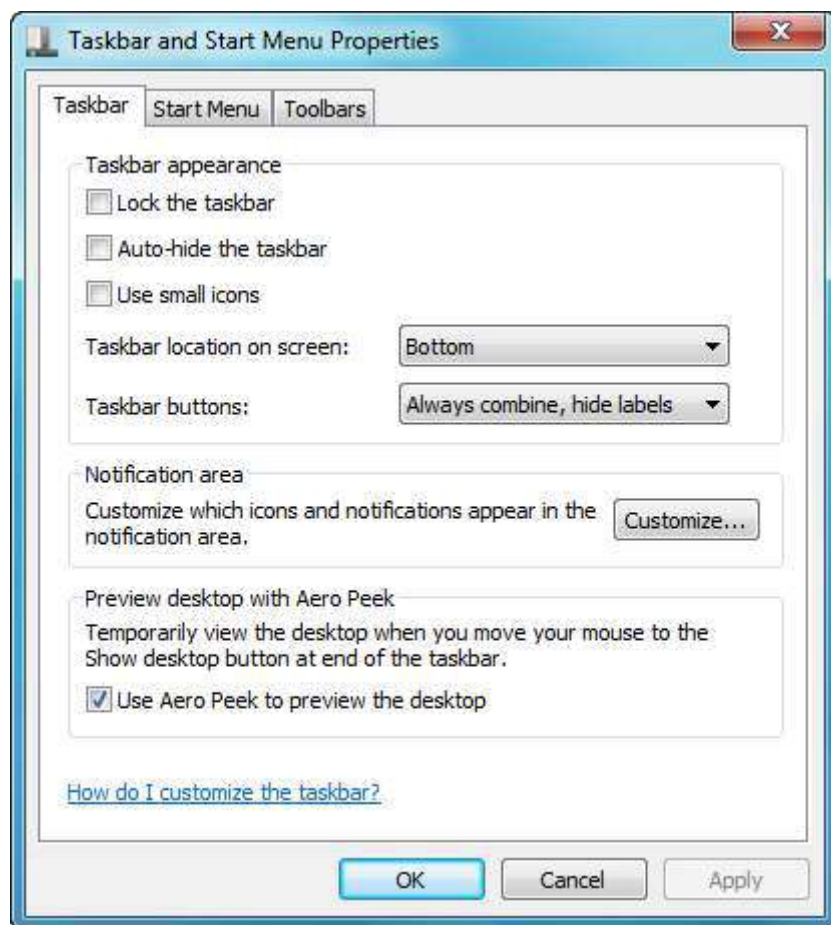


However, if you need that much space for all of the work you want to do, you might instead consider hiring an assistant or purchasing a few extra monitors!

## Other Taskbar Options

The taskbar features a few more tricks if you would like further customization. For example, imagine you are an animator or graphic artist and only use one or two programs during the course of your workday. Despite the taskbar being fairly small to begin with, you would rather have all the space on your screen available. In that case, you can make the Taskbar go away until you need it again with the AutoHide feature.

Right-click some empty space on the taskbar and click Properties. The Taskbar and Start Menu Properties dialog will appear:



Check the box marked “Auto-hide the taskbar” and click OK. This will make the taskbar disappear except for a single line across the bottom of the screen. Move your mouse to the bottom of the screen and the taskbar will reappear:



On the other hand, if you work in desktop publishing and have many different documents open at the same time, the Taskbar will group windows of the same program together into one button. Windows 7 does this by default, creating a “stacked” icon:

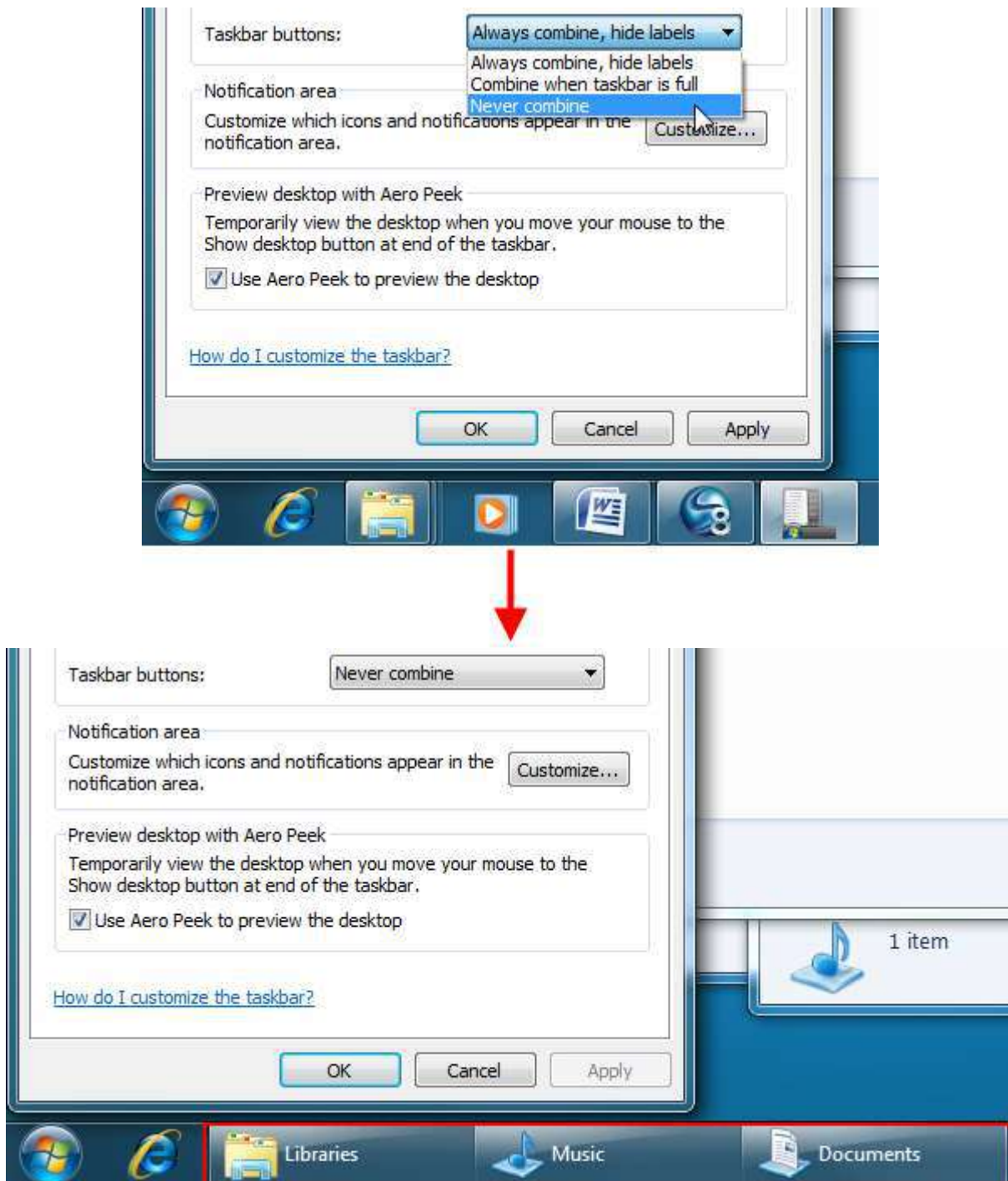


Hover your mouse over the stack to see a thumbnail image of each view. Point to a thumbnail to use Aero Peek and view the window, click the thumbnail to open that window, or click the close button beside the thumbnail to close the window:





If you wish to turn off this grouping feature and view the names of the programs/folders open on the desktop, use the Taskbar buttons combo box:



For example, the “Never combine” option displays taskbar icons in the traditional way, with the icon shown beside the name of the program or folder that is currently open. Click Apply to confirm the changes or OK to confirm the changes and then close the Properties dialog box.

## Lesson 3.2: Advanced Taskbar Options

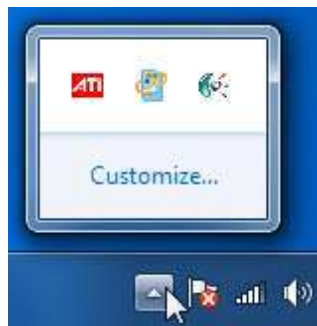
We will continue our examination of the taskbar in this section by looking at how you can streamline the operation of the taskbar. In this lesson we will cover the active and inactive icon areas of the taskbar and how you can add different toolbars to suit your needs.

### Interacting with Inactive Icons

When you install certain programs on your computer, sometimes the programs install small programs that reside in the System Tray. There are two types of icons. The first kinds are system icons and are included with Windows. These are directly related to the operation of Windows and your computer. These include the volume icon and a link to the Action Center:



You may see a small arrow to the left of the icons in the taskbar. Any programs listed here are the second type of icon, called hidden or inactive icons. These small programs start when Windows starts or start when a program is launched to provide quick access to different program features. Click the arrow to show any inactive icons. Note the Customize link which we will use in a moment:

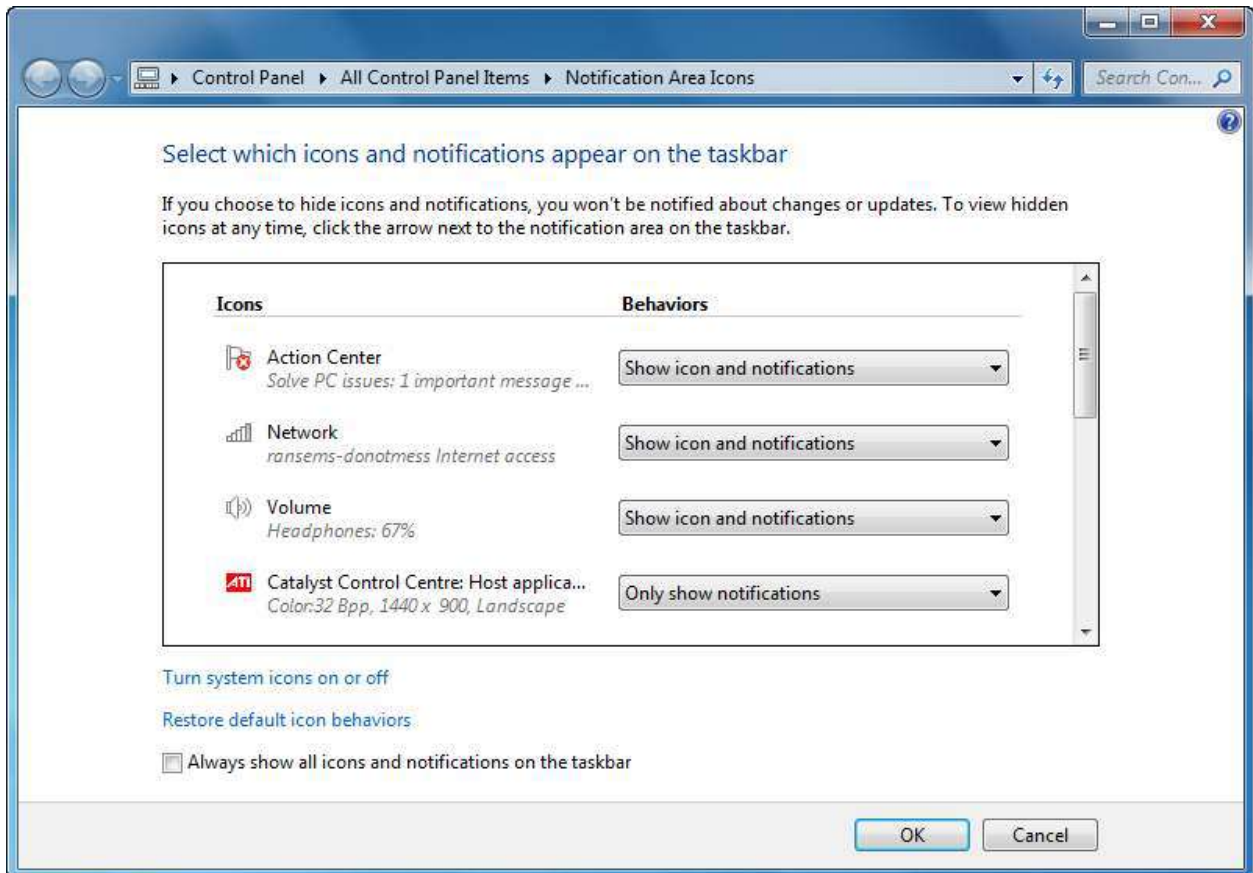


If you hover over an icon for a moment, you will usually see a small description of the icon appear:



Depending on the program, you should be able to click or right-click any of these icons and interact with them.

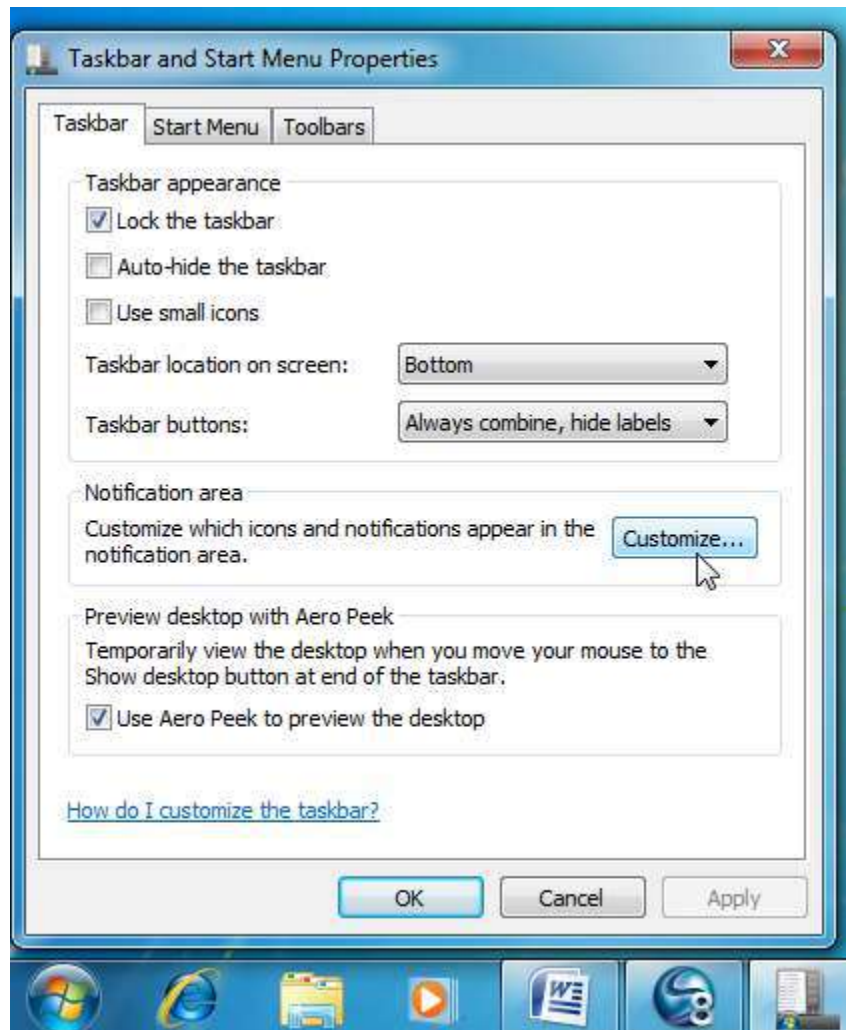
If you click the Customize link, you will be able to customize the way every icon (both the inactive and system icons) is shown:



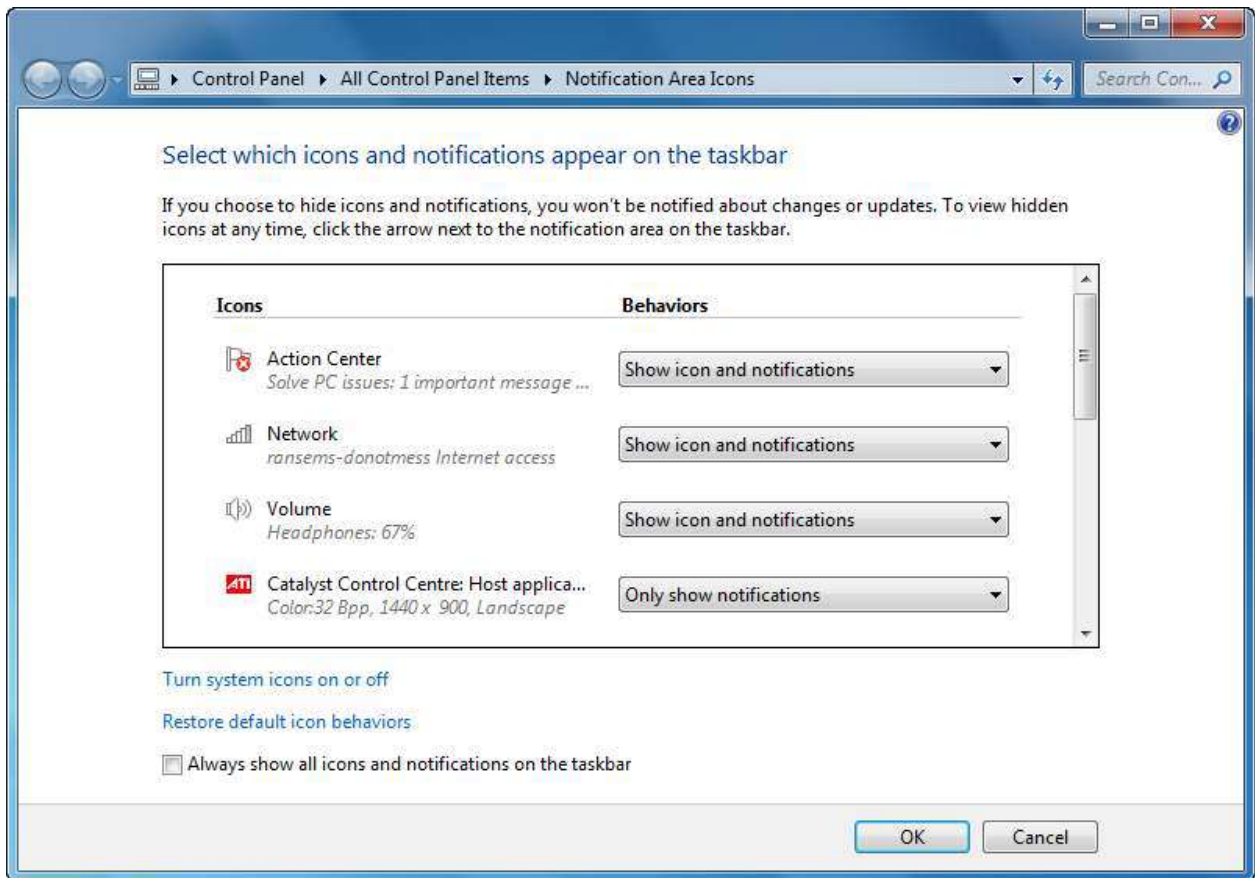
Make any changes using the pull-down menus to the right of the options and then click OK.

## Customizing Icons in the System Tray

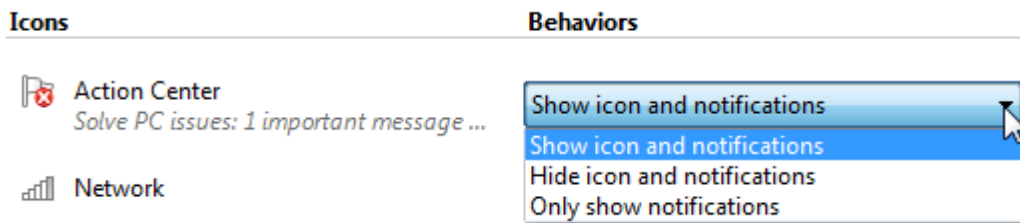
If you click the Customize link in the list of inactive icons, you will be able to customize the way every icon (both inactive and system) is shown. If you don't happen to see the small up arrow used to view any inactive icons, right-click the taskbar, click Properties, and then click the Customize button shown here:



Either method will open the following dialog:



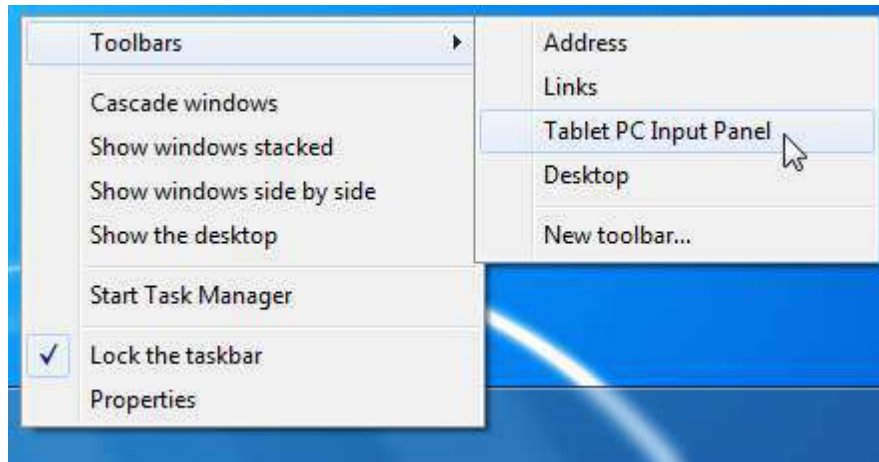
Make any changes using the pull-down menus to the right of the options:



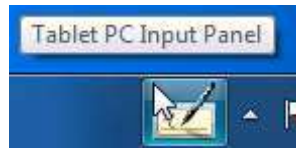
Click OK at the bottom of the dialog to commit your changes.

## Adding Toolbars

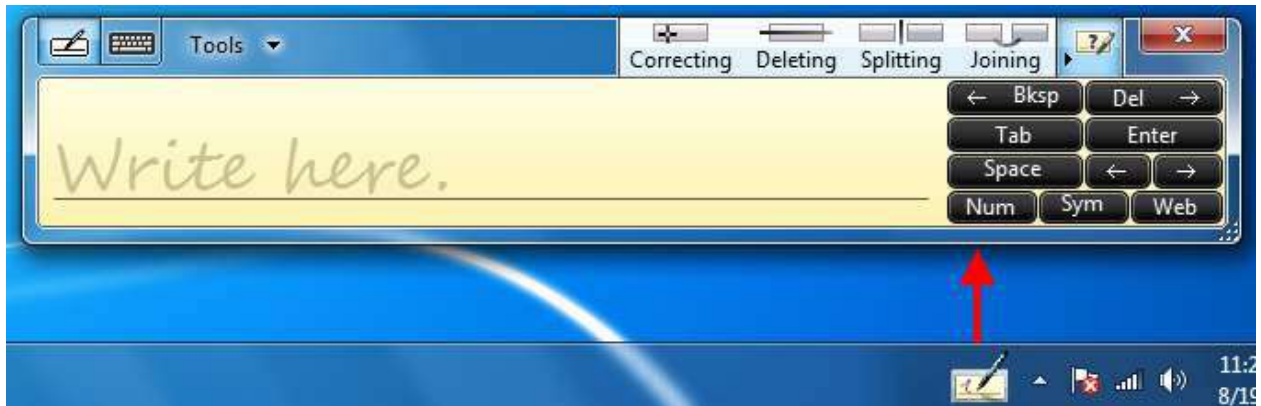
A toolbar on the taskbar is a small cluster of commands used to open a specific program or programs. There are a few toolbars that come standard with Windows 7. To view them, right-click the taskbar, point to Toolbars, and then select a toolbar to make active:



The toolbar will then appear somewhere on the taskbar:



Click the toolbar to open the respective program:



Let's quickly review the other toolbars:

Toolbar	Description
<b>Address</b>	Use this toolbar as a basic way to visit a Web site or network address. Simply type the address in the text box and press Enter. Your default Web browser will launch and proceed to that Web site or location:



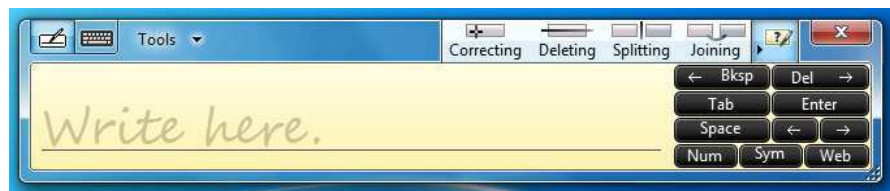
### Links

The Links toolbar is connected to Internet Explorer's list of links. Links are a special folder of Favorites, a list of saved URLs for your favorite or often visited Web sites. Click the (>>) icon to show the links; click any link to open that Web page in Internet Explorer:



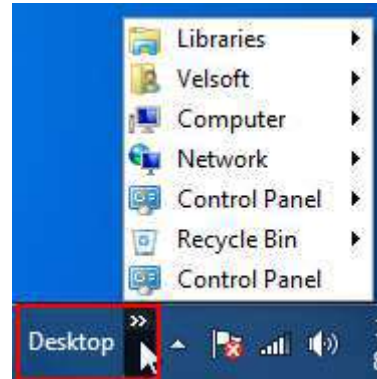
### Tablet PC Input Panel

A tablet PC is similar in design to a laptop; however, the screen is touch-sensitive. You can also use tablet tools with any other touch-sensitive screen. When you write something on the screen with the special stylus pen (which doubles as the mouse), your handwriting is translated into text that gets written into whatever program you may be using. This tool also contains an on-screen keyboard so you can tap the letters instead of writing them by hand:



## Desktop

The Desktop toolbar allows you quick access to different locations on your computer. Click >> to view available locations:



## Creating Custom Toolbars from a Folder

You can add program icons directly to the taskbar for easy access. However, if you create your own toolbar, you will be able to add both program icons and folders. The toolbar can then be enabled when you need it and disabled when you don't.

You can add a custom toolbar by selecting a folder that contains program shortcuts and/or other folders and data, which means that you might have to construct a folder first before adding it as a toolbar. Let's create a custom toolbar that contains a link to Windows Media Center and the Videos library.

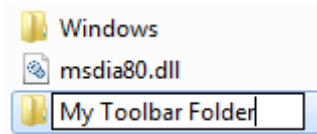
We will do this by first creating a new folder somewhere on our computer. We will create one right in the root of the hard drive (C:). First, open the Computer folder by clicking Start → Computer or navigating to Computer using Windows Explorer.

Next, we will double-click the C: drive to open and view its contents:

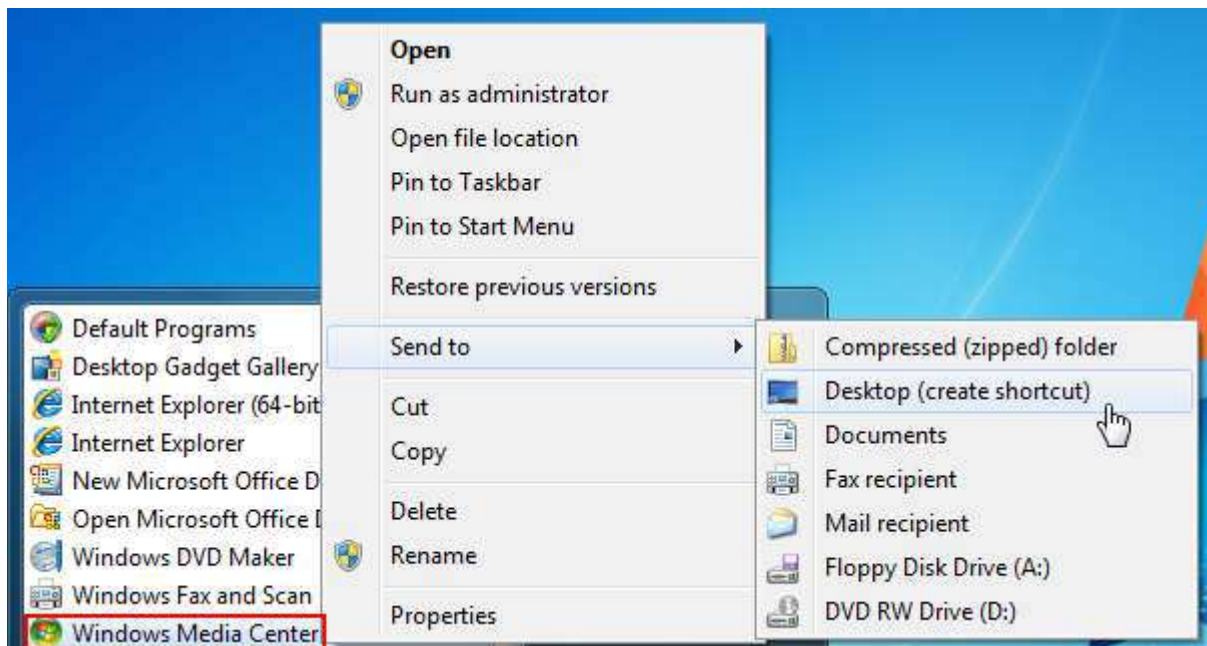




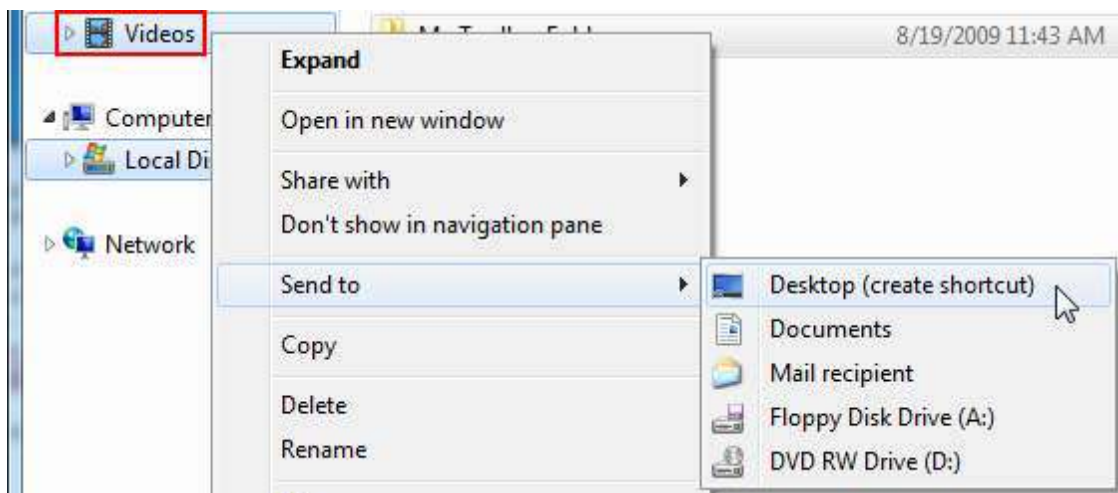
With C: open, click “New folder” in the command area and then give the folder a meaningful name:



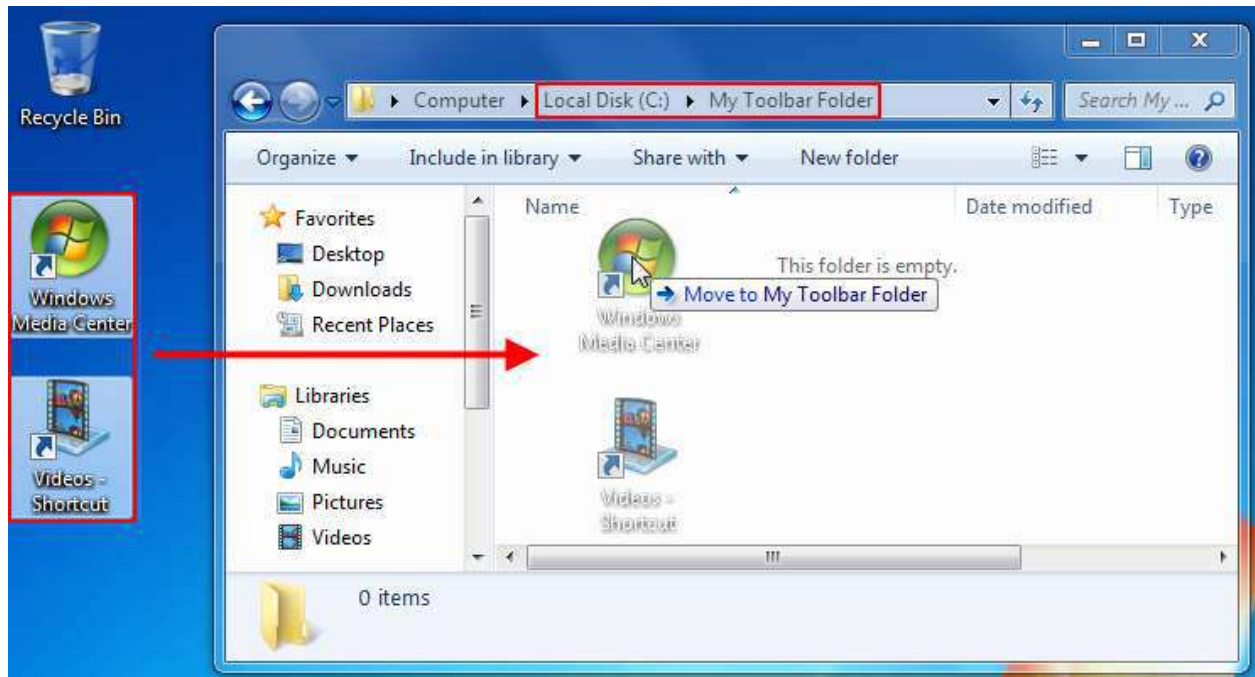
Now we need to add shortcuts to Windows Media Center and the Videos library to this folder. To do this, we will right-click on the item we want to add to the folder. Point to Send to and then click Desktop (create shortcut):



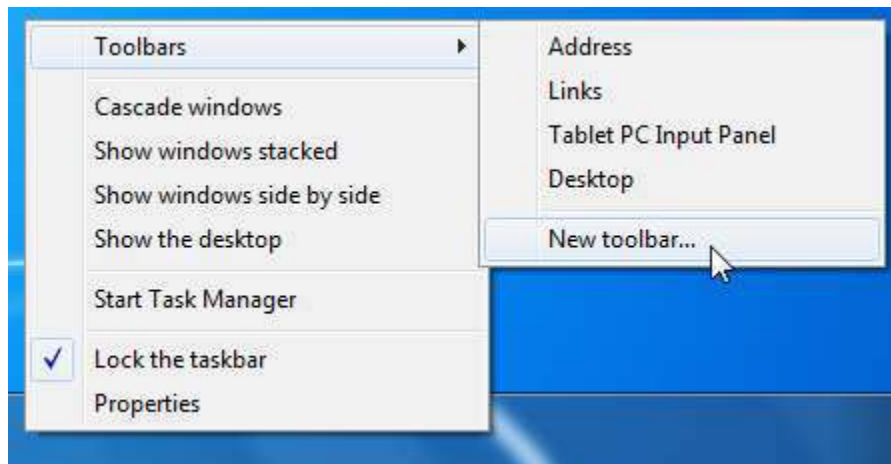
We will repeat this process for the Videos library:



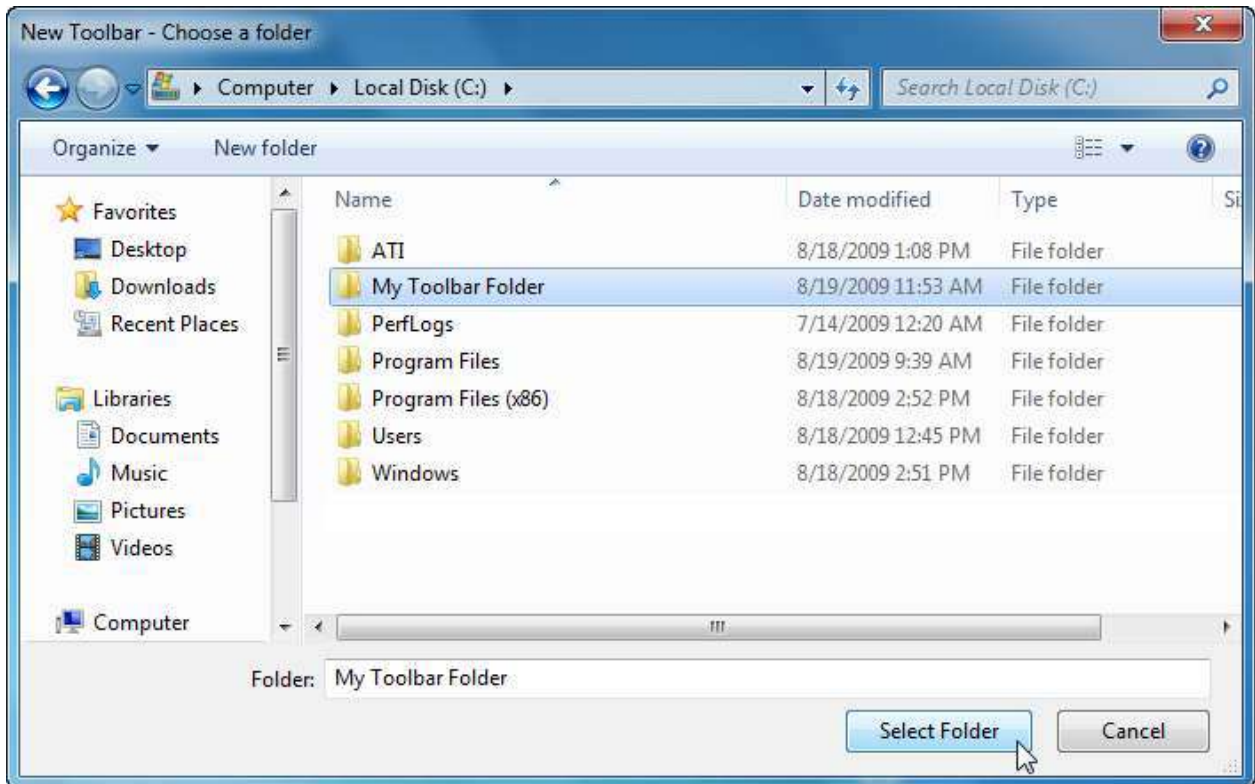
With both shortcuts added to the desktop, you can then move the icons into the toolbar folder. We have done this below by opening My Toolbar Folder and then clicking and dragging the icons from the desktop into the folder:



Now we can add the folder and its contents as a toolbar to the taskbar. Right-click the taskbar, point to Toolbars, and then click "New toolbar:"



Browse your computer, select the folder to add and then click Select Folder:

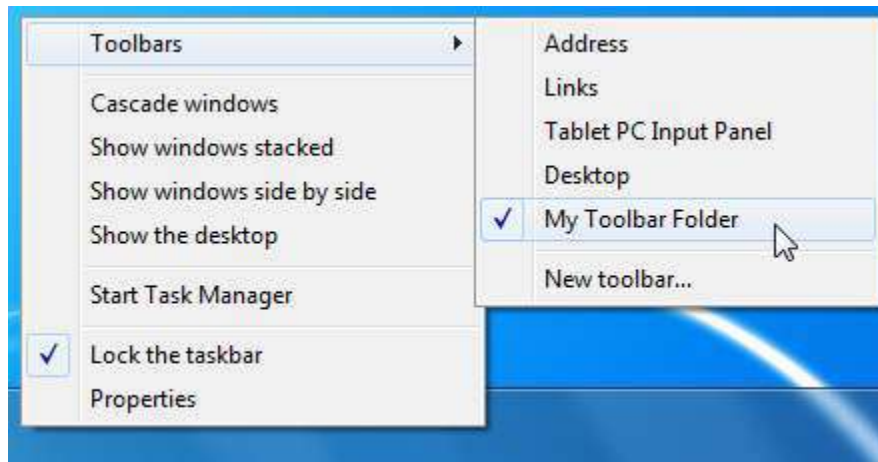


Your new toolbar is added and ready to use:



## Removing Toolbars

You can remove toolbars by removing the check mark beside its name in the list of available toolbars:

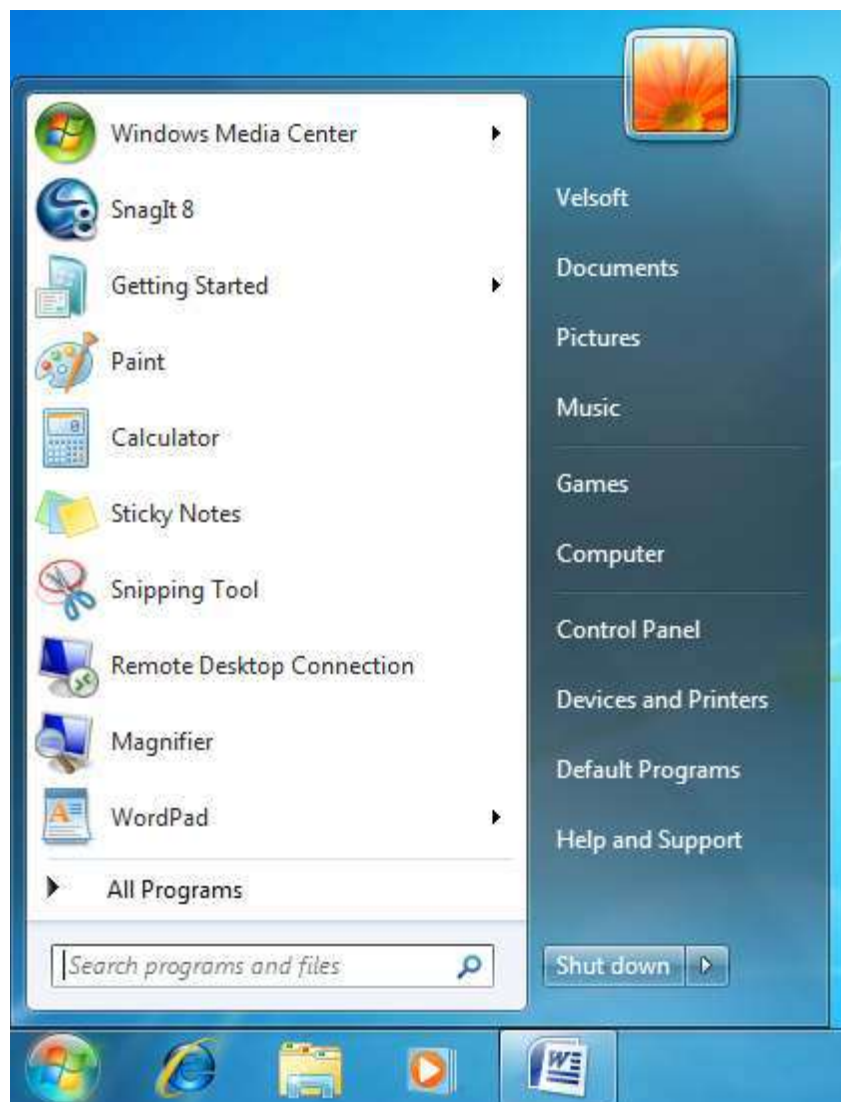


## Lesson 3.3: Customizing the Start Menu

The Start menu is the main gateway to everything your computer has to offer. All installed programs can be accessed here, you can view different locations on your computer, and you can use it to search and view files.

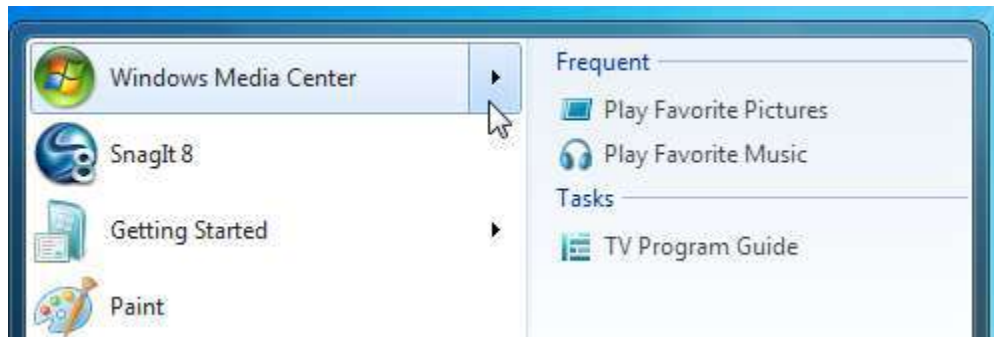
### Using the Start Menu

You should be fairly comfortable using the Start menu now, but a refresher never hurts. Click the Start button in the lower left-hand corner of your screen to view the Start menu:

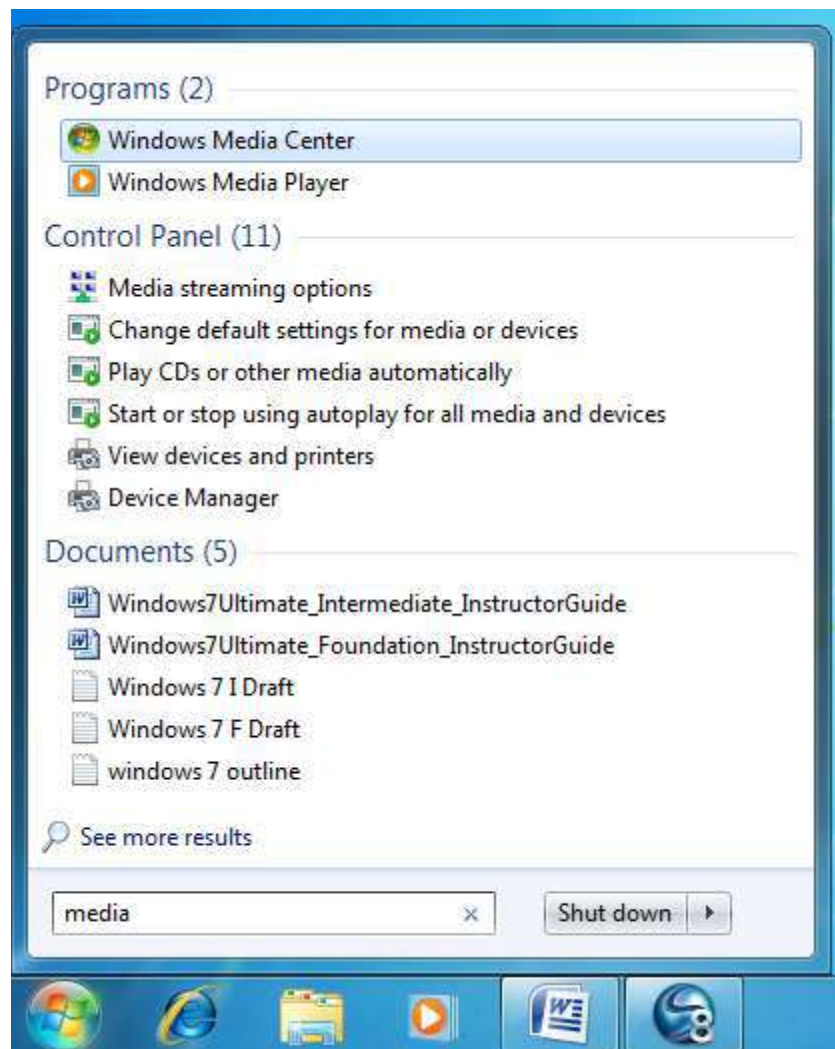


Click an item in the list on the left to open the program, and use the links on the right to access different areas of your computer or change settings.

Point to the (>) arrow beside a program name to open content or features recently used by that program:



Search parts of your computer by typing part of a file or program name into the Search Bar at the bottom of the menu:



Finally, you can click Shut down to turn off your computer or use other power options:



### Customizing the Start Menu

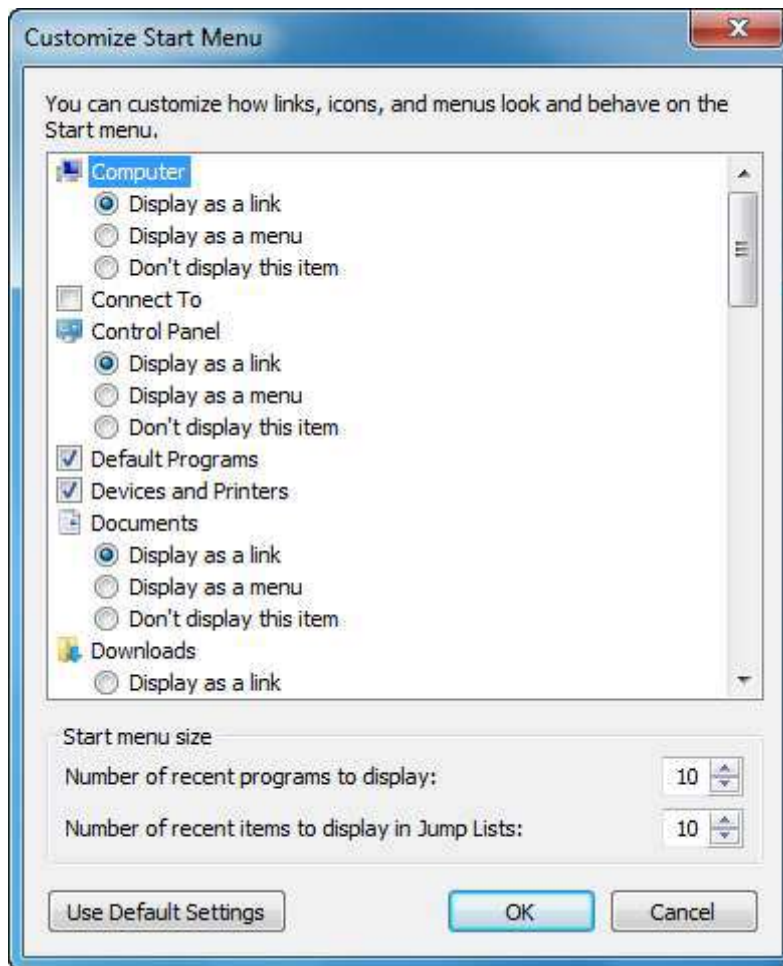
Most people will find the default Start menu layout easy to use. However, if you would rather not have so many icons, or have a very specific layout that you like to use, Windows lets you customize just about everything. To customize the Start menu, right-click in an empty space on the taskbar and click Properties.

When the Taskbar and Start Menu Properties dialog box appears, click the Start Menu tab, and then click Customize:





The Customize Start Menu dialog box will appear:



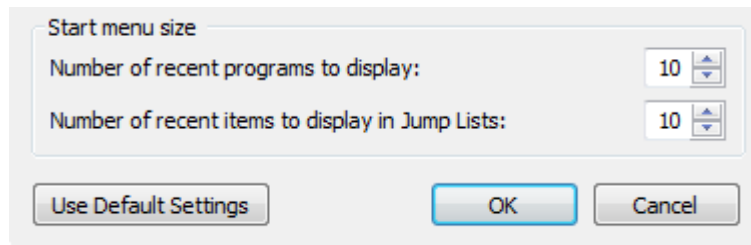
The list at the top of the window allows you to modify many of the main commands in the Start menu. Each of the items in the Computer Control area of the Start menu can be displayed as a link to a folder, displayed as a submenu inside the Start menu, or removed from the Start menu.

You can choose to enable/disable the Favorites folder which gives you quick access to all the stored Web sites on your computer. You can also choose to highlight any programs that have been installed recently:

- Favorites menu ←
- Games
  - Display as a link
  - Display as a menu
  - Don't display this item
- Help
- Highlight newly installed programs ←

There are other options that can be enabled here as well. If you have a network of printers that you have access to, you can add a Printers link to view the properties and print queues of the different machines. You also have the option to add a Run command, which lets you open programs by entering their specific launch command.

You can also control how many recently used programs to display and how many recent items to show in a Jump List (like how many previously visited Web pages in Internet Explorer). Finally, you can undo any changes and restore the default Start menu by clicking the Use Default Settings button:

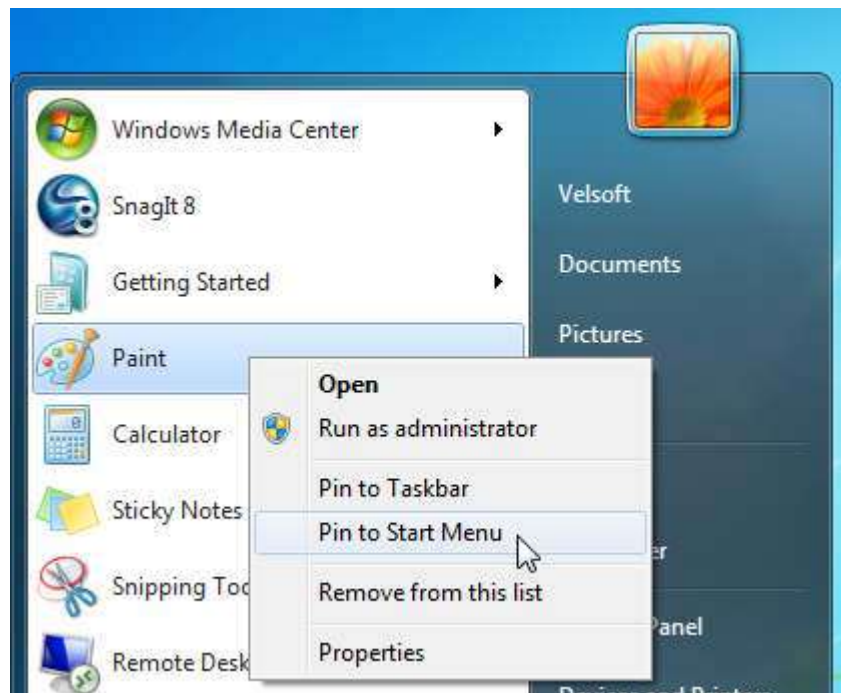


Click Cancel to discard any changes you have made or click OK to accept the changes.

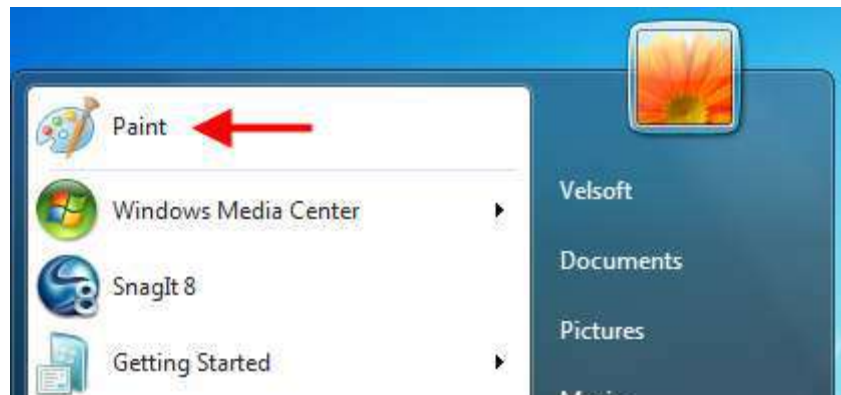
## Using the Pinned List

The Start menu contains an area at the top where you can “pin” commonly used programs. By default, there are no items pinned to the list; instead, the order of programs shown when you click the Start menu will change depending on how often you use the program.

You can add any program to the pinned list by right-clicking a program icon in the Start menu and clicking Pin to Start Menu:



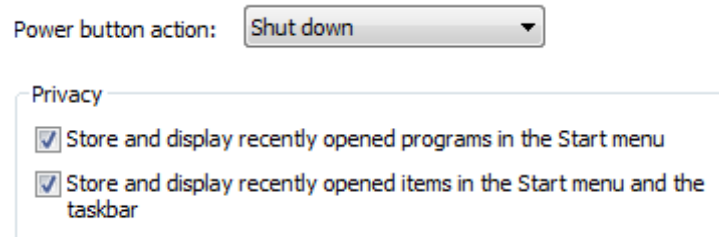
Now each time you click the Start button, that program will always be at the top of the Start menu and separated from the other icons with a faint line:



Conversely, if you want to remove an item from the pinned list, right-click the pinned icon in and click Unpin from Start Menu.

## Other Start Menu Properties

There are a few other commands that you can use to modify the Start menu. Right-click the Taskbar and click Properties, and then click the Start Menu tab:



By default, the power command in the Start menu will shut down the computer. You can click the combo box and select a different power option, like Restart or Log off.

You can also enable or disable the ability to display recently used programs and files/items in the Start menu.

## Lesson 3.4: Customizing the Desktop

So far in this section we have covered all the main parts of the Taskbar and Start menu. Now it's time to learn about one of the main working areas in Windows 7: the desktop. The desktop, at least as far as your computer is concerned, is nothing more than a folder that can store information. However, it is one of the easiest folders to use because it is always there underneath your other work.

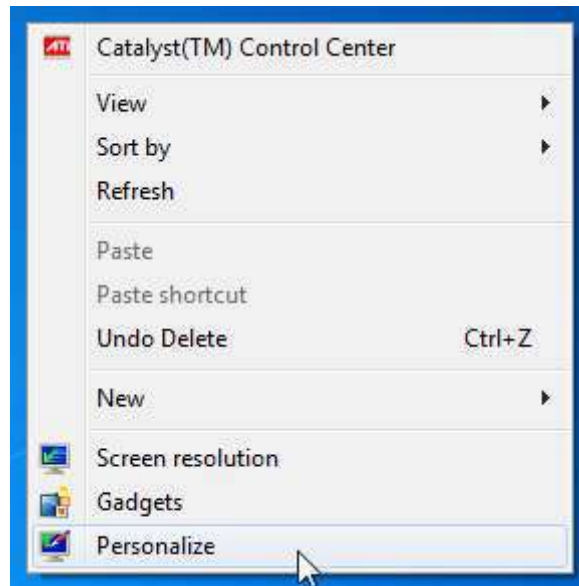
### Changing Your Wallpaper

Your wallpaper is the image that is displayed as the background picture on your desktop:

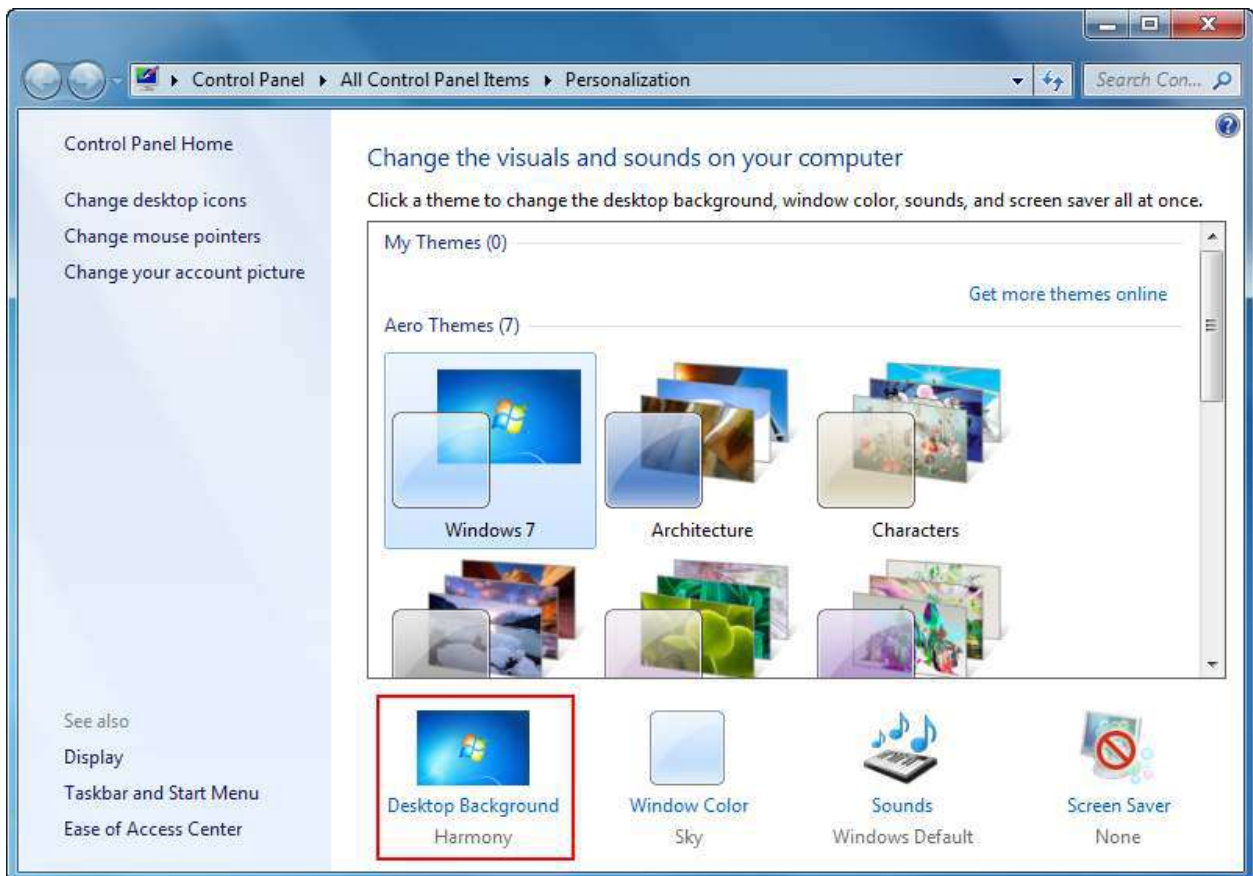


Your wallpaper picture can be anything you like and nearly any image file format is usable as wallpaper.

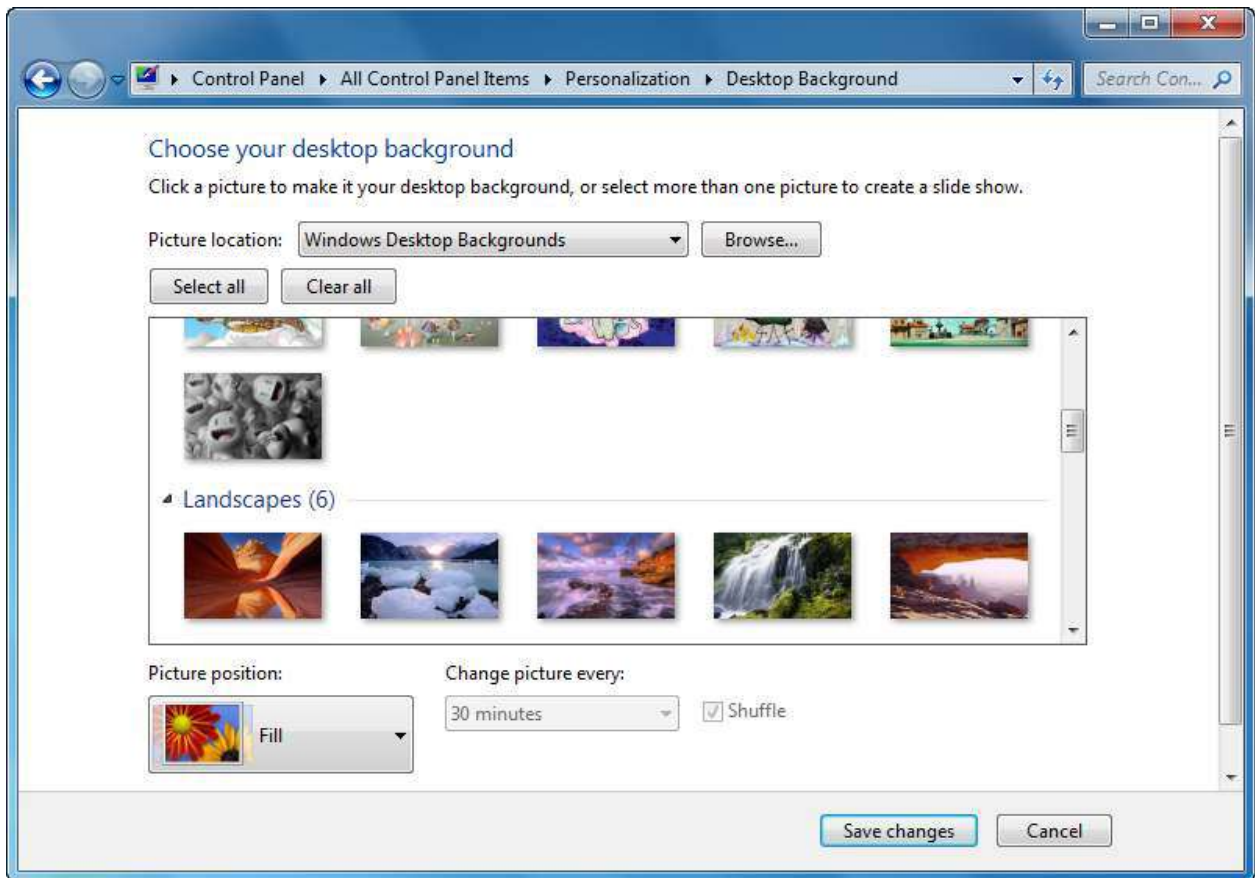
To change your wallpaper, right-click on any blank area of the desktop and click Personalize:



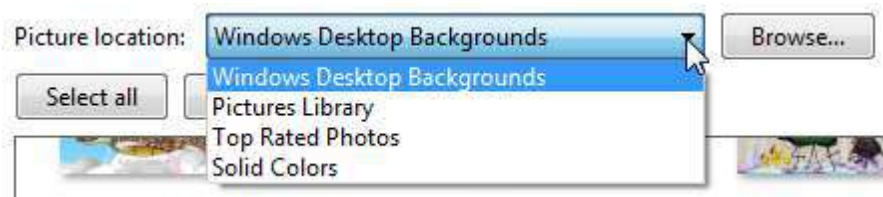
The Personalization folder will appear and offers several commands to adjust the visuals of your computer. To adjust your wallpaper, click the Desktop Background button at the bottom:



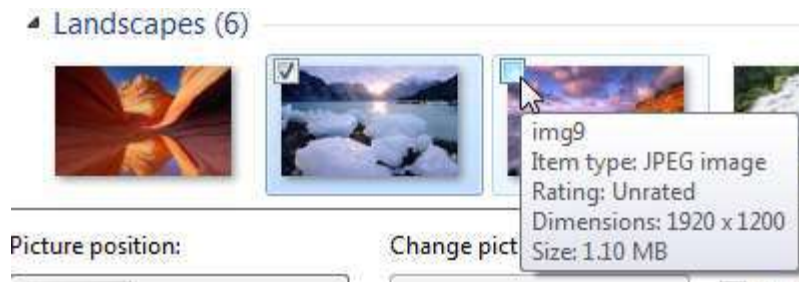
This will show you a window with various background options:



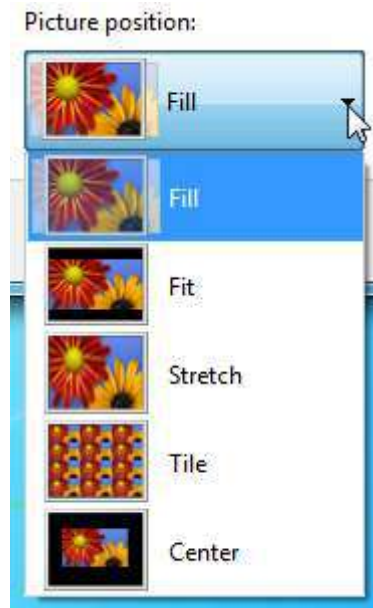
At the top of the window, you can use the combo box to choose the source for your wallpaper. You can also click Browse to select another folder that contains images.



Next, you can select one or more images to use as your wallpaper. To select multiple images, hover your mouse over a picture and then click the checkbox. Repeat this until you have selected all the images you want:

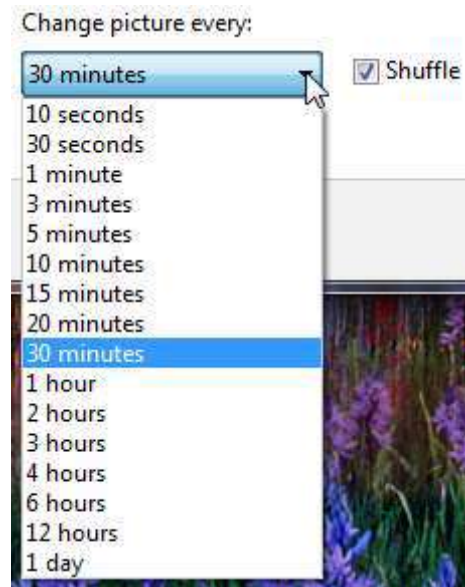


Now you can adjust how the image will be displayed on your screen. These options will force the image to conform in different ways relative to your screen resolution:



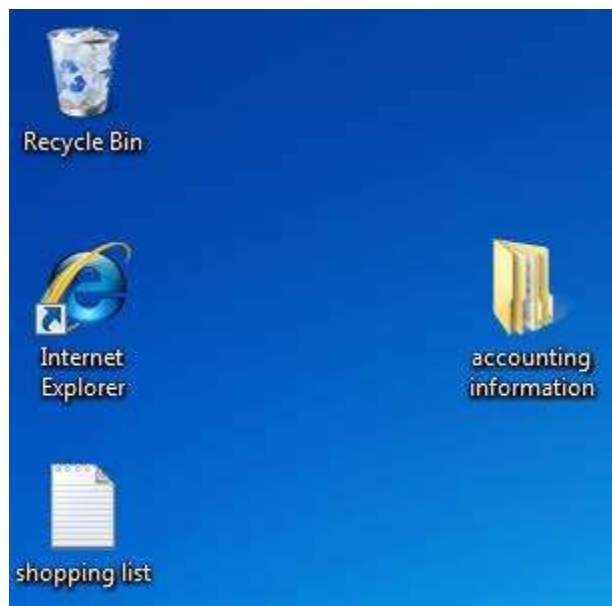


Finally, if you have selected more than one image to use as a background, you can control how often Windows switches between images:



## Moving Icons

The Windows desktop is designed to be used as you would a desk or table. Items can be arranged in any order, folders and files can be saved on the desktop, and all programs run in windows on the desktop. Consider the following desktop:



Icons can be moved one at a time around the desktop by clicking and dragging. If you want to move many icons at once, click and drag a box around the icons first:



Now if you click and drag any of the selected icons, you can move all of them as a group:



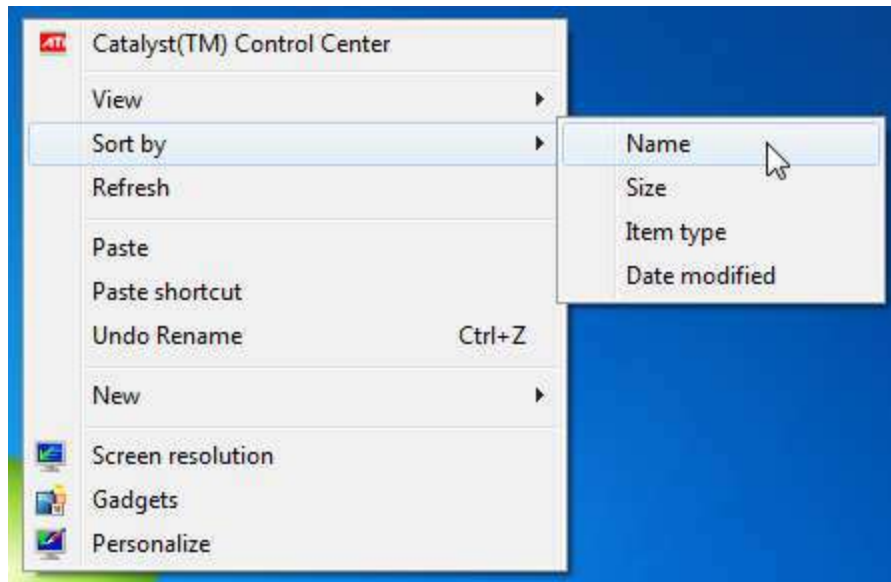
## Sorting Icons

If you use your desktop as a place to dump files and deal with them later (like me) it sometimes comes in handy to first sort the icons in different ways. Consider the following icons on my desktop right now:



As you can see, there are files, folders, and other icons arranged in no particular order. Windows allows you to sort these icons by Name, Size, Type, and the Date they were modified. To do this, right-click on any empty space on the desktop, point to Sort, and click an option.

Since I have lots of different kinds of files, I will sort by name:

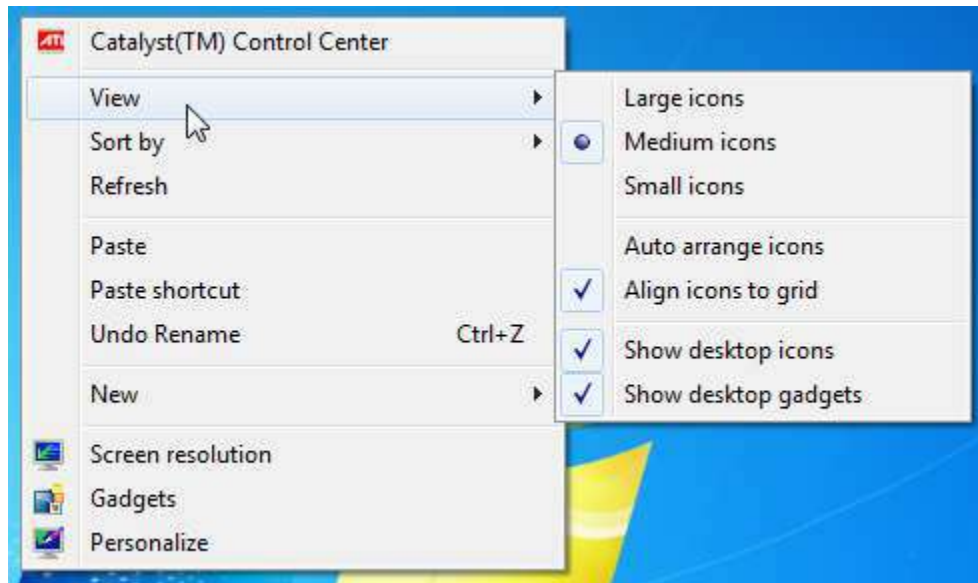


Now all of the icons will be arranged alphabetically:



## Setting View Options

By default, Windows displays medium size icons and aligns the objects to an invisible grid. However, Windows allows you to modify lots of display options, including the look of the icons themselves. You can change view options by right-clicking on the desktop and pointing to View:



Let's explore the different options:

Options	Description
---------	-------------

### Icon Size

Choose between large, medium, and small icon sizes:



### Auto Arrange

If you arrange your icons by name as we did earlier in this lesson, then enabling Auto Arrange will automatically sort any new folders or file types alphabetically into the icons that already exist. For example, if your desktop contains biographies of famous people and you sorted all of them by name, then any new file would automatically be placed in alphabetical order for you.

### Align to Grid

All of the icons on the desktop are by default arranged in a grid

Options	Description
	pattern. Any new icons added to the desktop are automatically fitted into an invisible grid to keep everything neat. However, you can turn that alignment off if you like.
<b>Show Desktop Icons</b>	Enable or disable this option to show or hide the Recycle Bin.
<b>Show Desktop Gadgets</b>	Enable or disable this option to show or hide your gadgets.

## Deleting Icons

To delete something from the desktop, you can click and drag an icon on top of the Recycle Bin or right-click the icon and click Delete. If you try to remove a shortcut to a program, you will see a warning like this:



To truly remove something from your computer, empty the Recycle Bin.

## Section 4: Advanced File and Folder Tasks

### In this section you will learn how to:

- Use a Search box in a folder and the Start menu
- Search your search results
- Better refine your search
- Open and use Windows Explorer
- Customize the layout of Windows Explorer
- Change the view of Windows Explorer
- Create a new library
- Create and manage files and folders
- Cut, copy, and paste files and folders
- View file and folder properties
- Share a file or folder
- Burn files and folders
- Print a file
- Use the command prompt



## Lesson 4.1: Using Search

Despite the numerous ways you can organize files and folders on your computer, things can sometimes get lost or folder locations forgotten. Luckily, Windows has robust search capabilities, and a search box or search tool is never very far away. In this lesson we will learn how to track down files that may have gotten away from you.

### What is File Indexing?

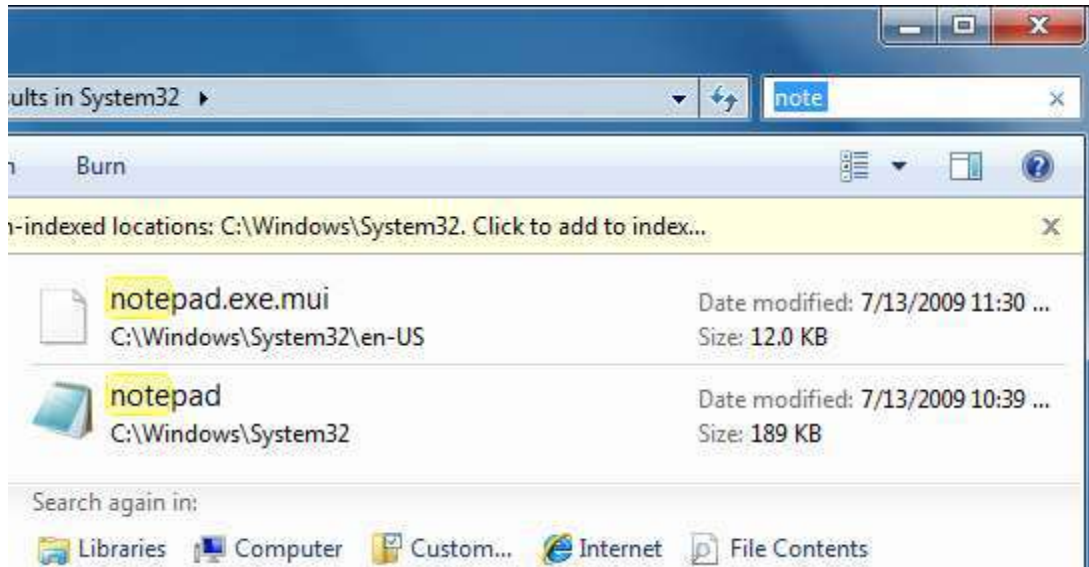
Windows uses an indexing system to help keep track of files.

An indexing system basically makes a quick alphabetical list of all items inside a folder. Whenever you search for a particular item inside a folder using the Search box, only the items that are contained inside that folder will be searched (instead of all the files on your computer being searched at once). An indexing service does have a disadvantage, however, in that when a folder is first opened, every item is analyzed. If a folder contains hundreds or thousands of items, your computer will become noticeably slower for a short time while the index is built. However, once the indexing has been completed, searching becomes much faster and therefore allows computer navigation to become much faster. This quickly makes back the time spent on indexing.

Not all areas of your computer are indexed. Most of the files associated with the inner workings of a program, for example, are not indexed. This is because there can literally be thousands of files associated with a single program. If every single file was indexed, there would eventually come a point where the time it took to search the index would actually take longer than it would take to blindly search the files!

## Using a Search Box

Every folder contains a search box, usually right at the top of the window. To use a Search Box, just type in the name of a file you are looking for. You don't even need to press Enter; results of your search become more refined as you enter more information:



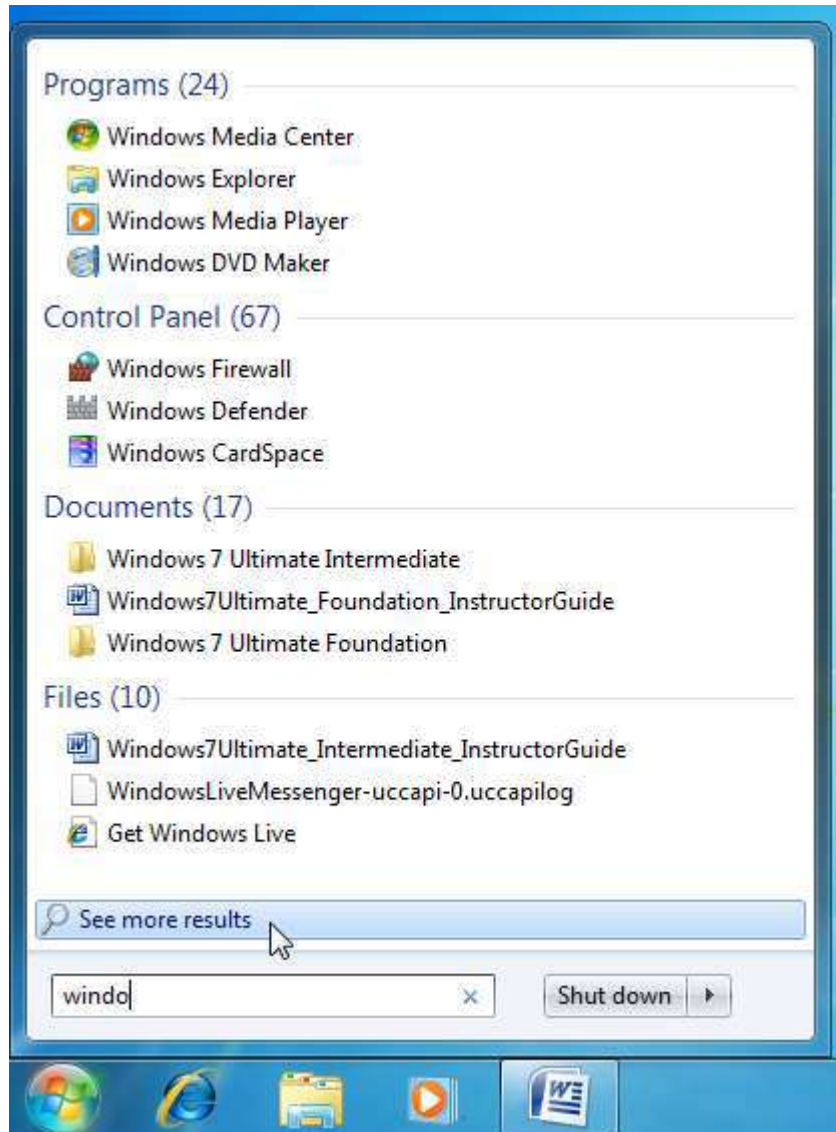
## Using Search in the Start Menu

Searching locally inside a folder is easy to do with the Search bar, but doesn't help you very much if you don't know what folder to look in! Therefore Windows includes a broad search tool in the Start menu, just above the Start button.

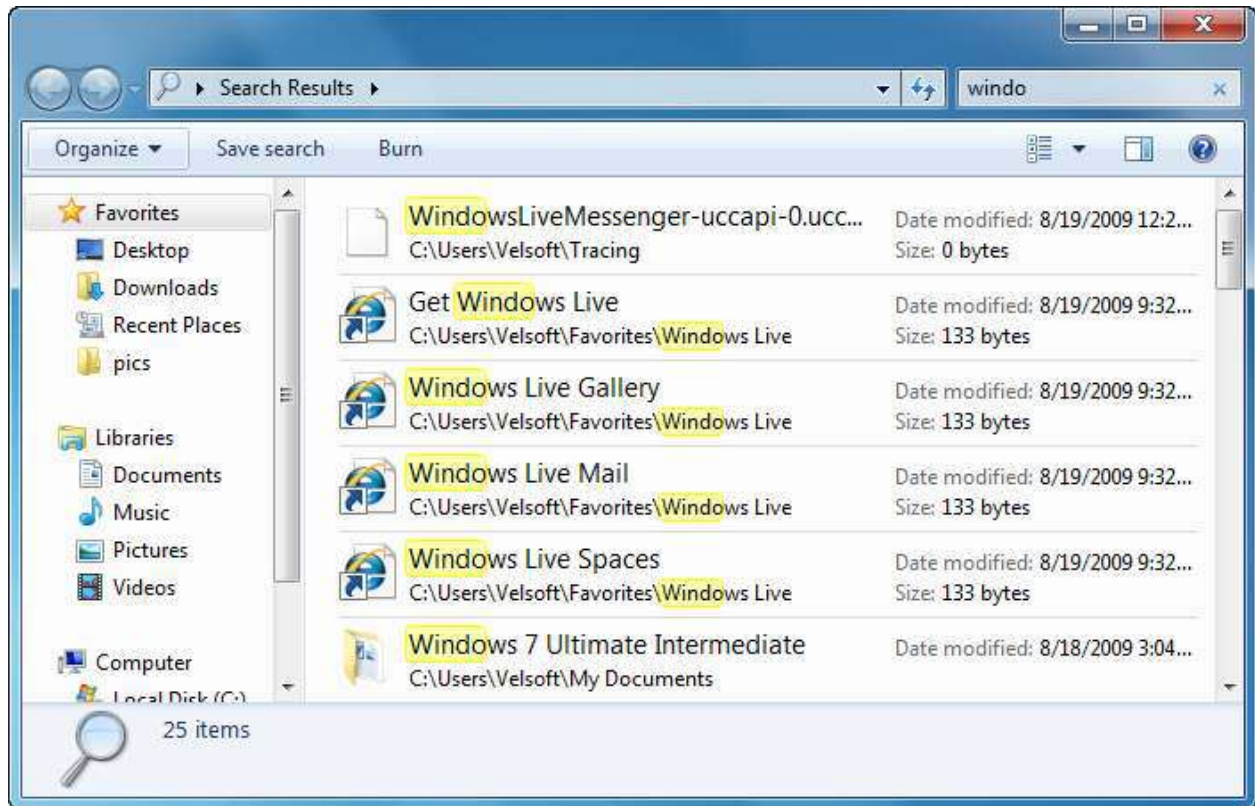
Type the first few letters of the file name or program you are looking for and Windows will display some of the best matches for you as you type based on files that have been indexed.

## Search Results Window

The Start menu is an easily accessible location where you can search for things. However, if there are many responses to your search and you don't think any of them are quite what you were looking for, you can see the full list of results by clicking "See more results:"

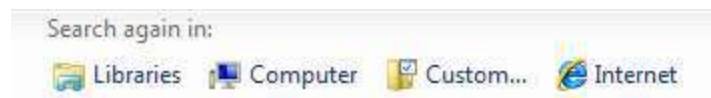


This will open the Search Results window:



In the Search Bar at the top of this window, your original search term will appear. All results from indexed locations that match your search term are highlighted in the center of the window. Double-click any item to open it.

At the bottom of the search results, there are a few links to search different areas of your computer again:



You can tell Windows to search exclusively in the Libraries, on the Internet, your entire computer (including non-indexed locations), or define a Custom search.

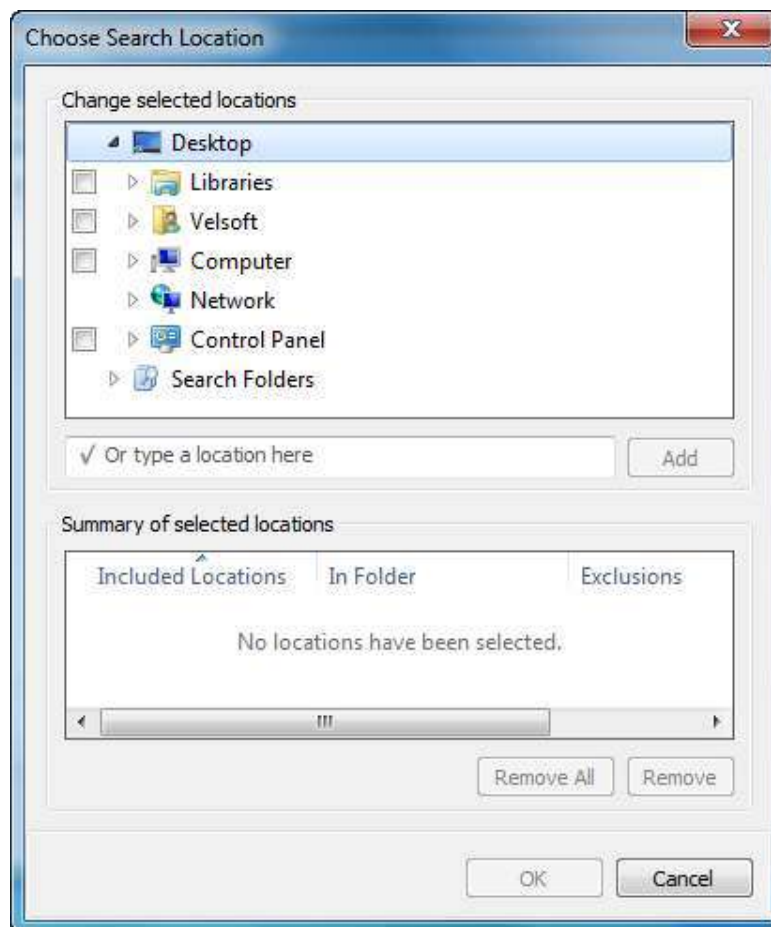
If you click the Computer link, Windows will search your entire computer. While the computer is searching, you will see a green progress indicator behind the address bar showing the approximate overall progress of the search:



Once the search has completed, you can scroll through the results. Be warned however, that some searches of your entire computer may yield quite a few results!



If you click the Custom option at the bottom of the Search Results window, you can specify which indexed or non-indexed locations will be included in your search.



Sometimes you may have better luck by telling your computer where not to look!

## Searching Tips and Tricks

There are numerous ways to help improve your search results. We know that the Search tool only searches indexed locations, which are all commonly used folders, but only a very small part of your computer. You can try to be more specific with your search term(s), but being too specific may not yield any search results. And searching your entire computer may find the file, but it might take you a long time to search through the search results!

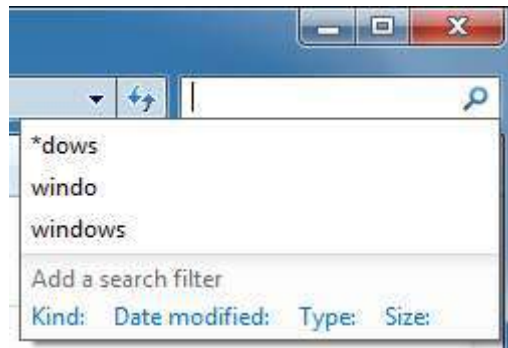
Luckily, there are a few different things you can do to make your searches more efficient.

If you only know part of the file name, you can use the asterisk (\*) character to help find files that have similar names. If we were to search for “sym\*,” the \* represents any possible characters after the letters “sym.” Search results might include things like “symbol,” “symphony,” and “symbiosis.”

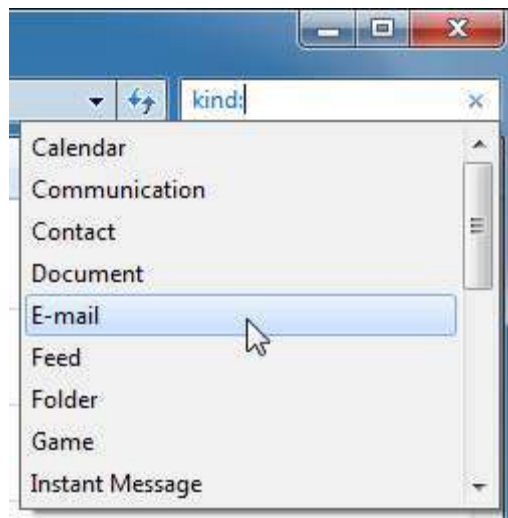
If you press Ctrl + F when the Search Results window is open, you can add more criteria to your search. You can search based on the following criteria:

Criteria	Description
<b>Kind</b>	<p>Define the kind of file you are looking for. This includes documents, pictures, music, movies, etc. Windows will examine the file extensions and search for relevant matches.</p> <p>For example, common picture file extensions include .jpg, .gif, .png, .bmp.</p>
<b>Date modified</b>	<p>Specify the date the file or program was last modified.</p>
<b>Type</b>	<p>The Type option is a more precise version of the Kind searching. Define the exact type of file extension you are looking for. Windows 7 recognizes a large number of different file extensions, and the more programs you have installed on your computer the more file types Windows will be able to recognize.</p>
<b>Size</b>	<p>You can define approximately how large the file is in bytes.</p>

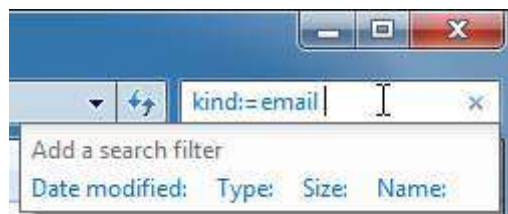
To use one of the search criteria, just click one of the options in blue:



For example, if you click the Kind option, you can choose the general file type from the list:



If you click the E-mail option, the criteria will be added to the search field:

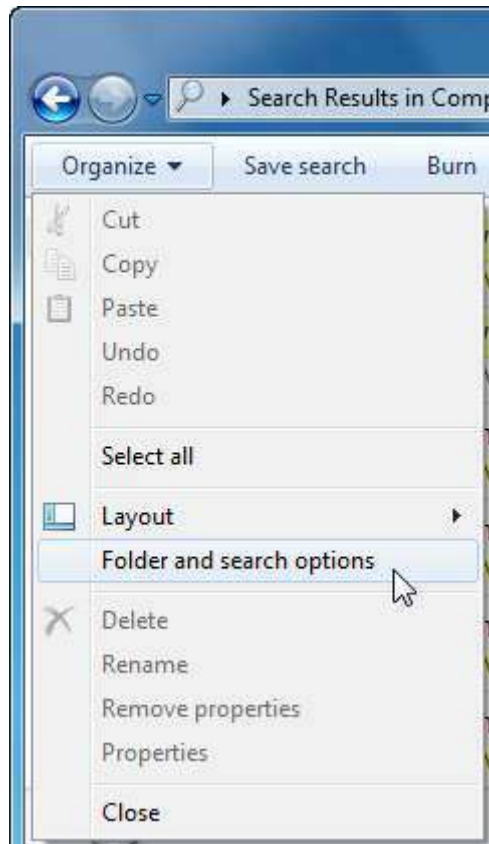


This will further refine your existing search or let you search for something else based on the criteria.

You can combine several search criteria together so you could be very specific with your search. If you know you are searching for an e-mail approximately 100K in size, and you know the subject started with "P," chances are if it does exist you will find it!

## Setting Search Options

To specify with even more detail how the Search tool should operate, click the Organize button and then click “Folder and search options:”





When the Folder Options dialog appears, click the Search tab:



Adjust the options here to change how the Search tool functions. Enabling some options will require extra search time; however, they may yield much more accurate results.

Let's explore the different options:

Options	Description
<b>What to search</b>	Specify how you want the Search tool to look for and how deep in a file to dig for it. Specify if you want to always use indexed locations or if you want Windows to search everywhere, including the contents of the file.
<b>How to search</b>	The options here let you specify how much freedom you want to give to the Search tool. The two default options shown above (Include subfolders, Find partial matches) are best to use for an all rounded approach.

**When searching a non-indexed location**

We know that some folder locations are indexed, meaning that a list of information about the files in a folder has been compiled, making searching faster. If you want to search every nook and cranny of your computer in order to find a system file or file that is stored in a compressed folder, enable both of the bottom options.

Depending on the information you are looking for, some combinations of search options can produce very slow search times. Unfortunately it is impossible to provide a perfect solution for everyone; it will simply involve some trial and error. Nonetheless, you can always return the search options to their defaults by clicking the Restore Defaults button.

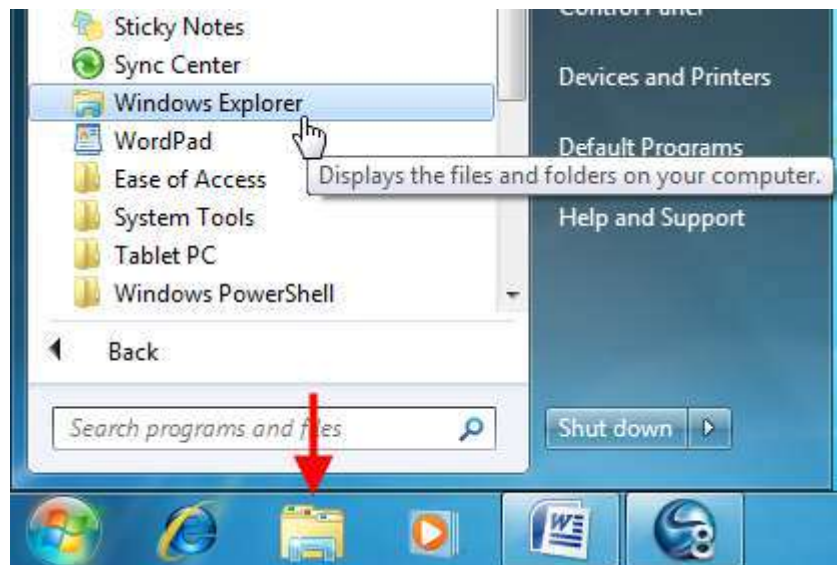
## Lesson 4.2: Using Windows Explorer and Libraries

Windows Explorer is a program that is used like a folder to navigate through the different parts of your computer. Using Windows Explorer, you can view file hierarchy, move large volumes of files at once, and more.

You should be pretty familiar with the basics of Windows Explorer by now, so in this lesson we will go over more detailed information.

### Launching Windows Explorer

Windows Explorer is found by clicking Start → All Programs → Accessories → Windows Explorer. It is also attached to the taskbar by default:

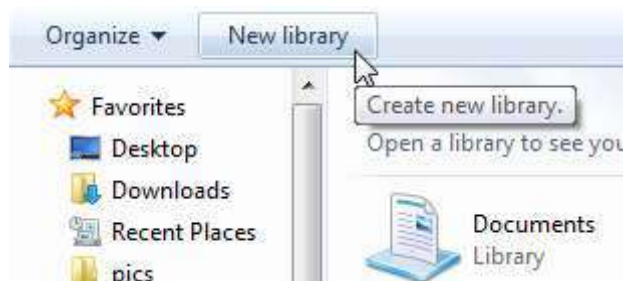


When you open Windows Explorer, you will see links to the four default libraries: Documents, Music, Pictures, and Videos.

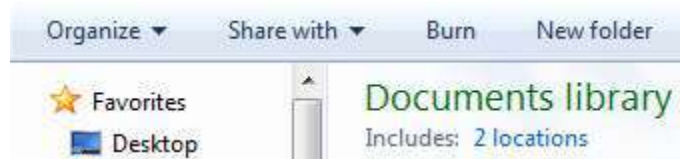
## Windows Explorer Overview

At the top of the window is the command area. There are Back and Forward buttons, an address bar that shows you the current folder or drive you are viewing, and other commands that change depending on the content included in the folder.

For example, when you first open Windows Explorer via the Start menu or taskbar, you have the option to create a new library:



When viewing a folder that contains a variety of items, you will see these commands:

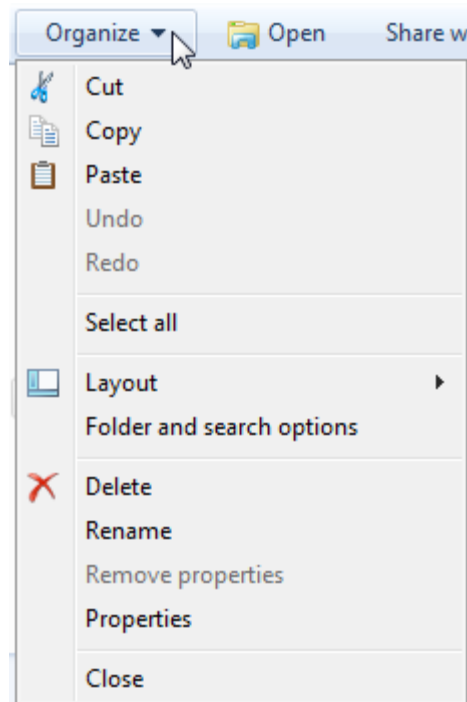


These four commands are the most common ones you will see when using Windows Explorer.

Let's take a moment to go over what each command does.

### Organize

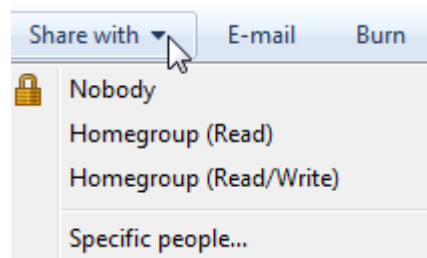
This option is available all the time when using Windows Explorer. This general menu lets you perform a number of common tasks:



### Share with

Windows has the ability to communicate with other computers that are part of the same network. Most offices have some sort of network established so all computers can save files in one location or share a printer. Many homes also have a network, either a wired one that was installed when the house was built or a wireless one via a wireless router.

Windows 7 has the ability to communicate with other types of computers. Two or more Windows 7 computers can create a Homegroup; a simple network that allows for easy sharing of files. Most of the information relating to networking is beyond the scope of this manual. However, if you click the "Share with" option, you can share files with other users on your network:

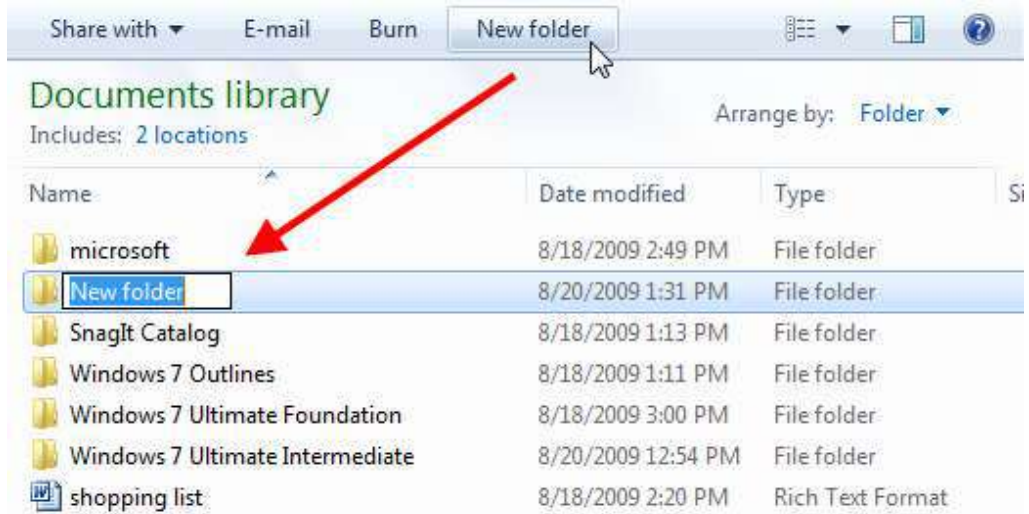


## Burn

Burn the contents of the current folder to a CD or DVD.

## New folder

Use this command to add a new folder inside the current location. Click the command, then type a name for this new folder:



If you are viewing files that can be played with Windows Media Player, you will see the “Play all” command:



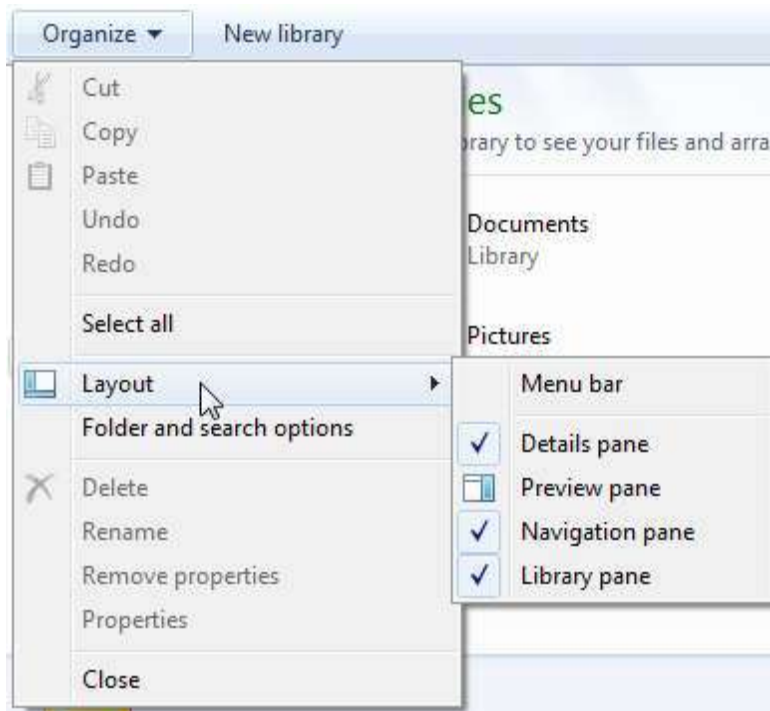
Click this command to play all items in the folder.

If you are viewing a folder that contains pictures, click “Slide show” to view all files at once:



## Choosing a Layout

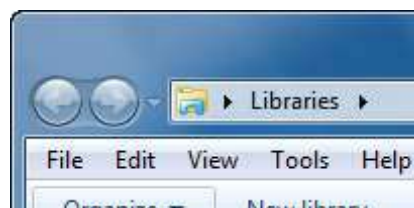
If you want to choose a different layout for Windows Explorer, use the Organize command and point to Layout. You can enable or disable different parts of the window here:



Let's go over the different components:

Component	Description
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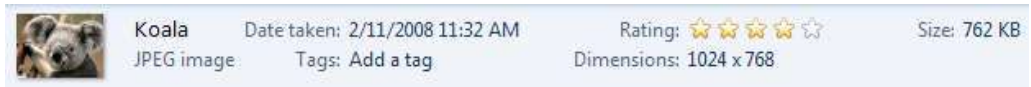
<b>Menu bar</b>	The Menu bar is disabled by default. This option adds some menus to the top of the window:
-----------------	--



File lets you create and manage objects in the folder. Edit lets you select, cut, copy, and paste items. View lets you change how items in the folder are displayed. Tools offers advanced networking options. Finally, Help lets you view the Help file and legal information about Windows.

Component	Description
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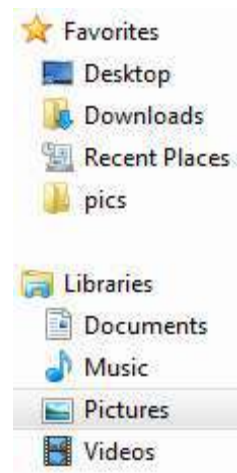
**Details pane** The Details pane is visible at the bottom of the window. It shows vital statistics about the folder or the selected item(s):



**Preview pane** The Preview pane is useful when viewing pictures or other graphical media. It displays a small image on the right side of the window:



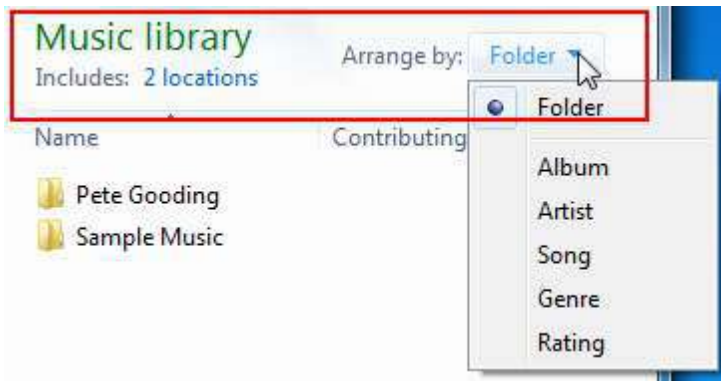
**Navigation pane** This lists the major folders and locations on your computer:





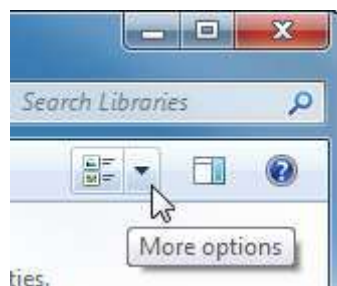
Component	Description
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**Library pane** The Library pane is only visible when viewing libraries. It shows the library name, a link to the number of locations referenced by the library, and a menu to arrange the data in the library:

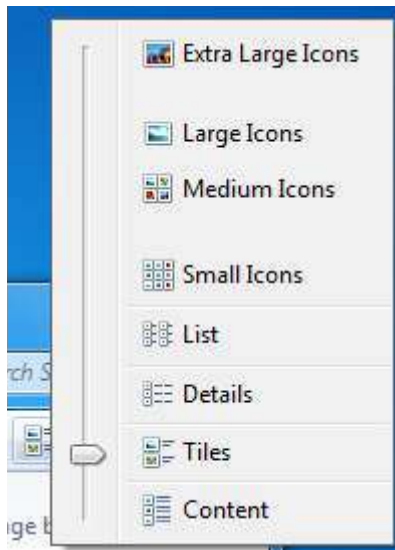


## View Options

Windows lets you display file information in a variety of ways. Experiment with these options when viewing a folder that contains a lot of files. To explore the view commands, click the "More options" command:



This command lets you choose between a variety of different views.

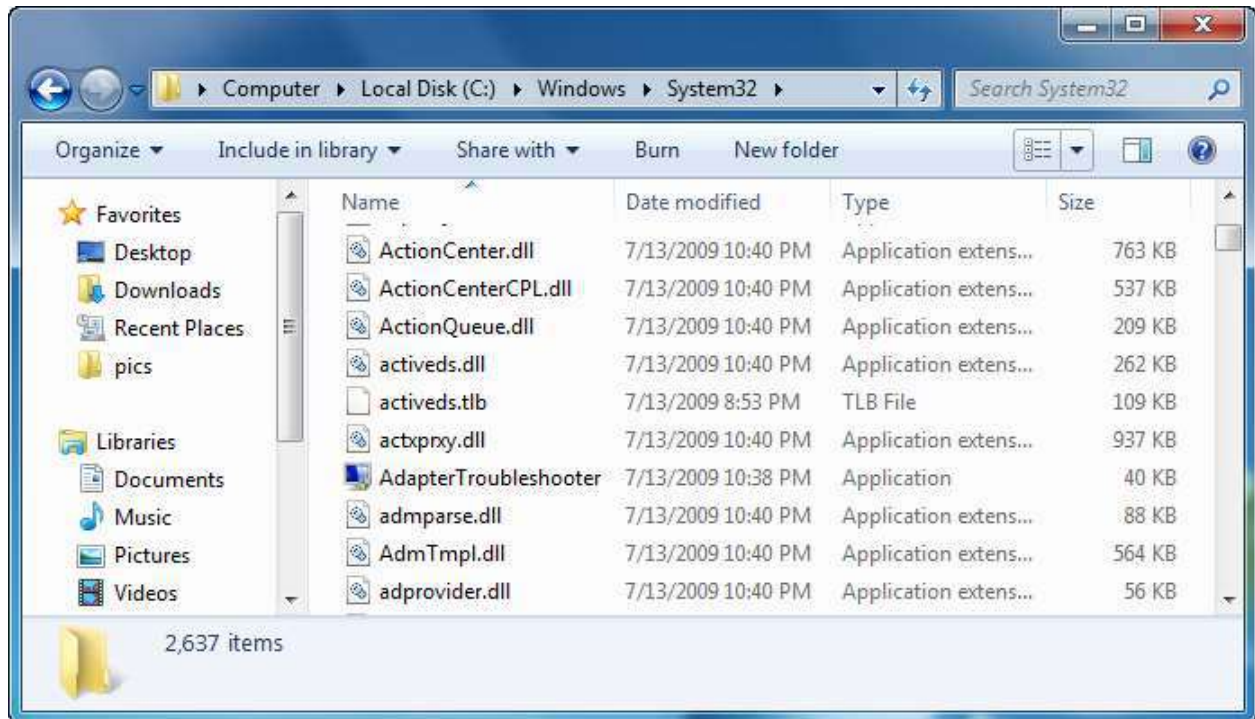


Extra Large, Large, and Medium icons are great when viewing folders containing pictures:



List and Details are great when viewing data or system files, or many files of the same type.

Below is an example of the Details view, which provides vital statistics about different files:

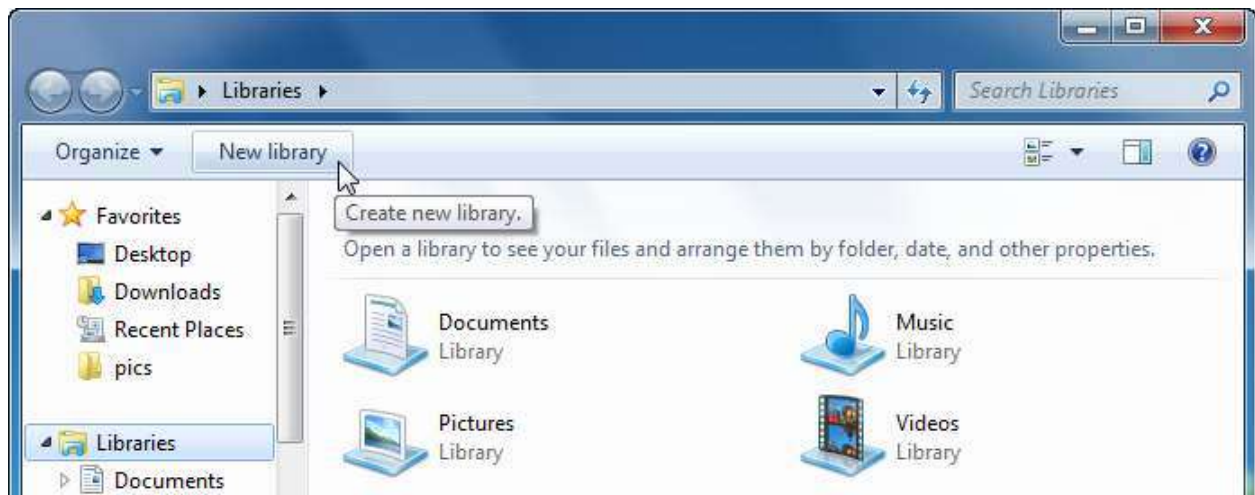


## Creating a New Library

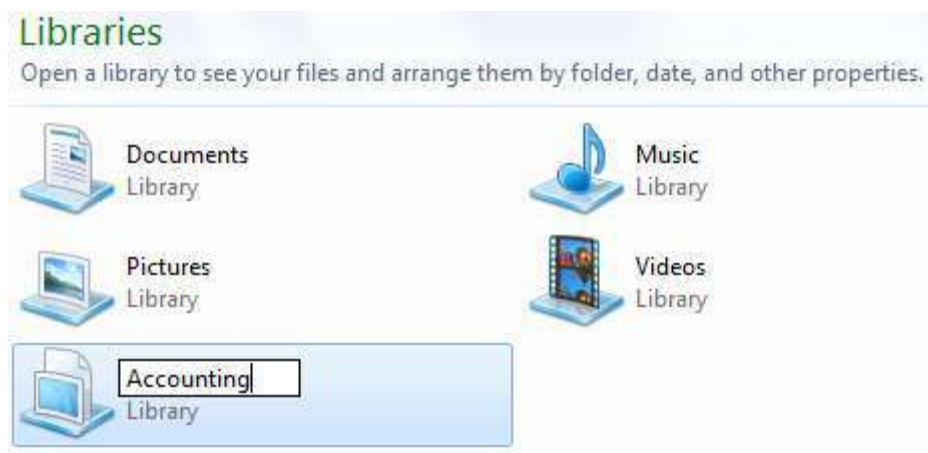
We've already used libraries quite a bit in this manual. They are essentially folders that reference one or more different locations on your computer at once. The four default libraries included with Windows 7 will probably be enough for most users. However, if you are responsible for working on many different projects that each require a lot of supplemental information, it might be easier for you to create a new library instead of adding more and more folders to the Documents library.

To create a new library, open Windows Explorer or click the Libraries link in the Navigation pane.

Then click the “New library” command:



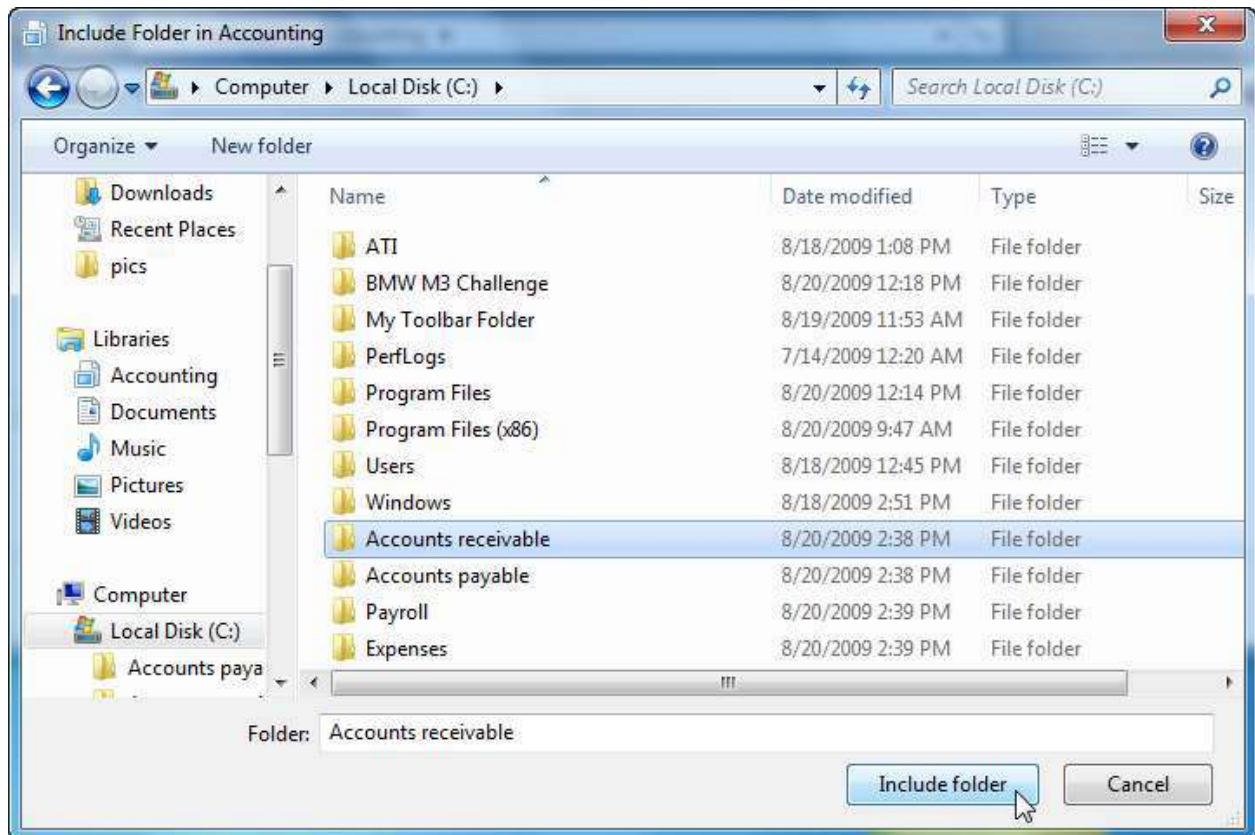
A new library will appear under the others. Give the library a meaningful name and press Enter:



Now double-click this new library to open it. In order to use the library, it needs something to reference. Click “Include a folder” to continue:



Next, navigate to the area of your computer containing a folder you want to add. Highlight the folder and then click “Include folder:”



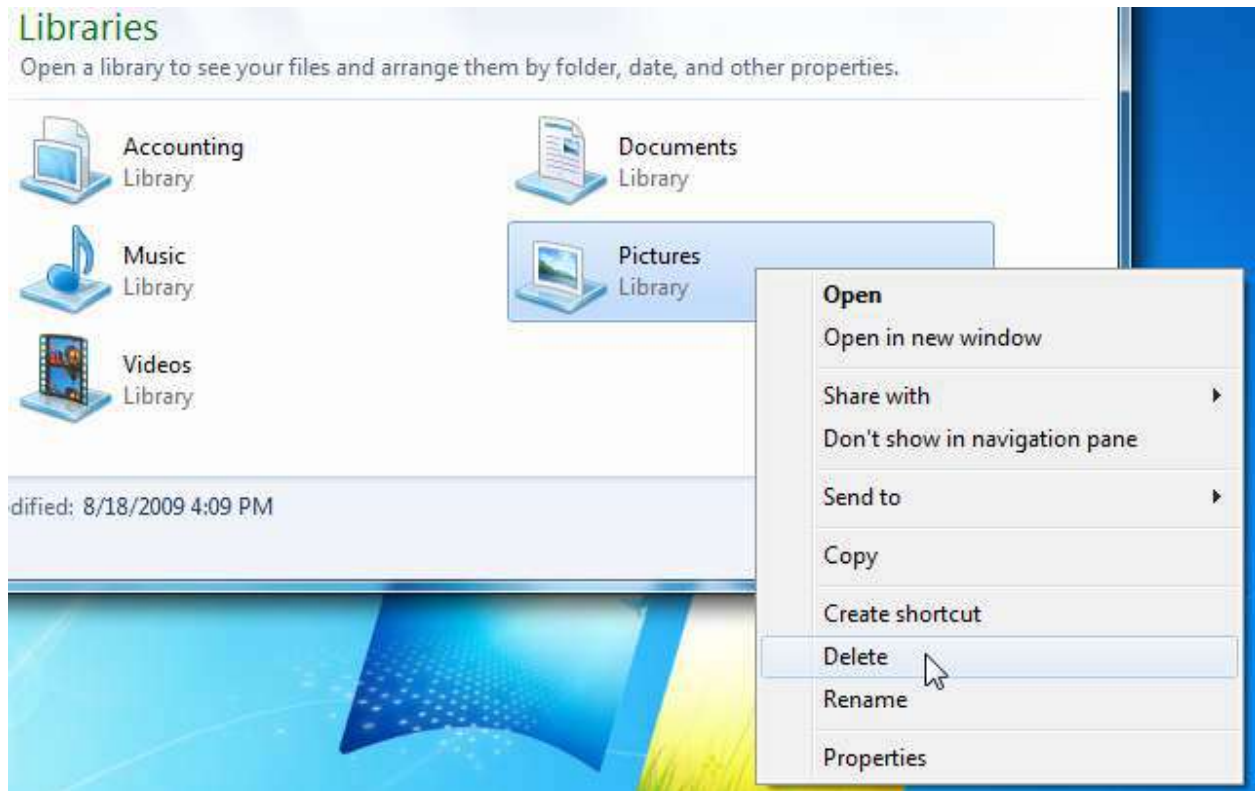
The new location will then be shown in the library:



To add another location, click the blue “1 location” text under the library title. Browse and choose another folder. Repeat this process until you have added all the folders you need to the library.

Don't forget, you can add more locations to the default libraries too!

You can even delete the existing libraries if you wish; just right-click the library you want to remove and click Delete:



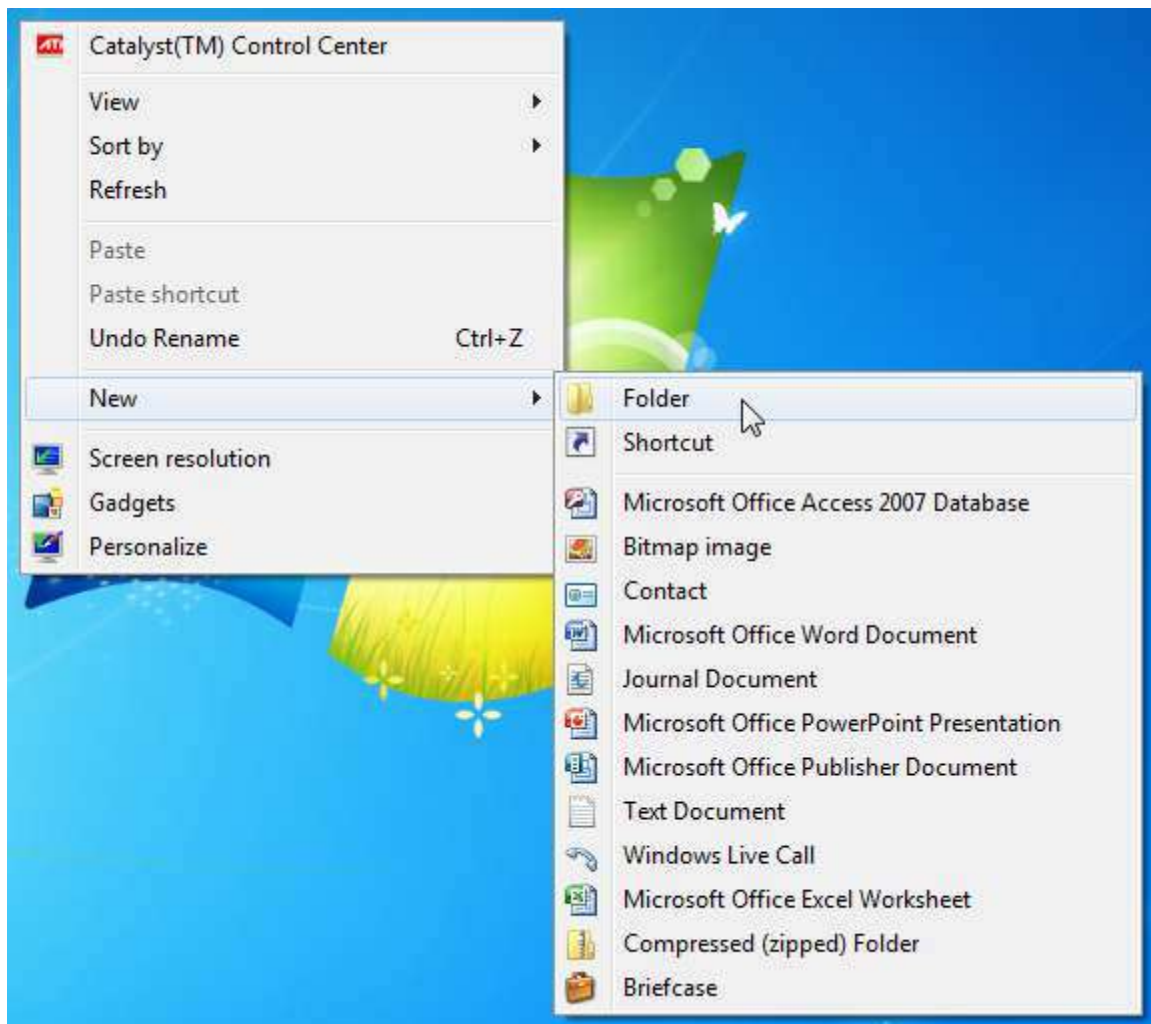
If you delete a library, you aren't deleting the data included in them. Remember that a library is just a convenient way to reference several file locations at once. If you want to delete data for good, you will have to delete the source data manually.

## Lesson 4.3: Managing Files and Folders

The operation of every single computer program involves reading and processing the instructions found in a file. From something as basic as Notepad to Windows 7 itself, everything you can do and everything you see on the screen is a result of information being read and processed from a file. In this lesson we will explore different file and folder management tasks.

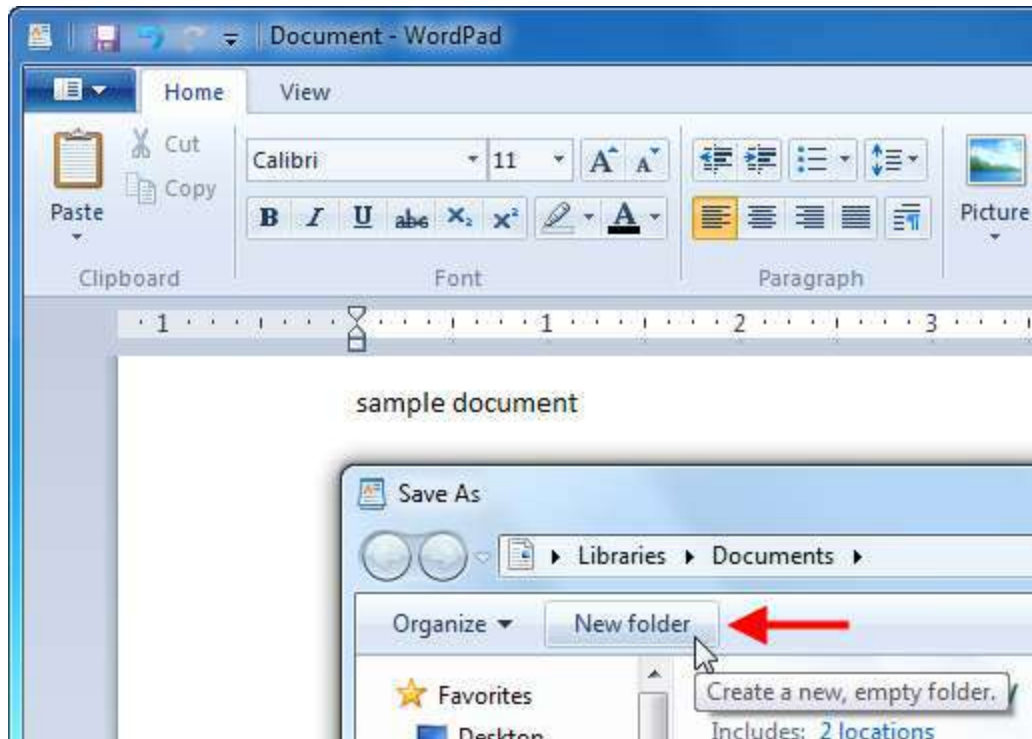
### Creating and Naming Folders

You can create a folder just about anywhere on your computer in one of two ways. If you are creating a new folder on the desktop, or in a folder, right-click on an empty area, point to New, and click Folder (at the top of the list):

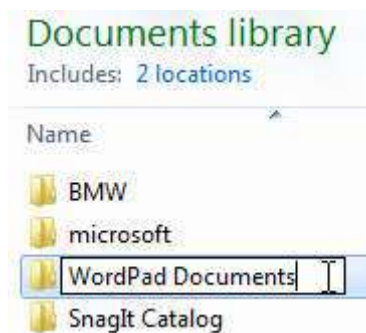


Give the folder a name and then press Enter.

Windows allows you to create a new folder at the same time you are saving a file. For example, if you wanted to make a new folder for WordPad documents, you can do so while saving the file. When you see the Save As dialog appear, click the “New folder” command:



A new folder icon will appear. Give the folder a name and then press Enter:

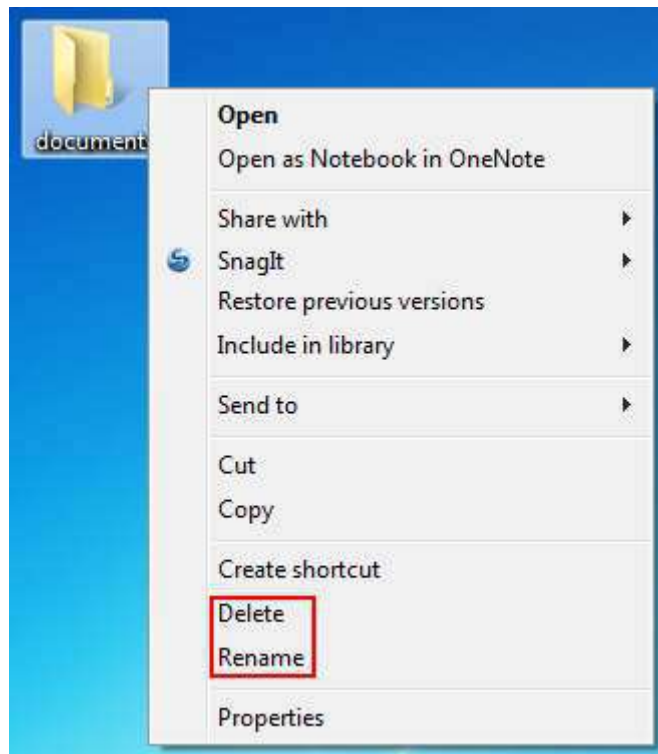


In order to save something in the new folder, double-click the new folder's icon, give the file that is to be saved a name, and then click Save.



## Renaming and Deleting Folders

You can rename or delete a folder at any time (unless you are trying to save something inside a folder that you are also trying to delete; Windows prevents these errors). Simply right-click on the folder and select Rename or Delete. This can be done with folders in Windows Explorer, in a Save dialog box, or folders on the desktop:



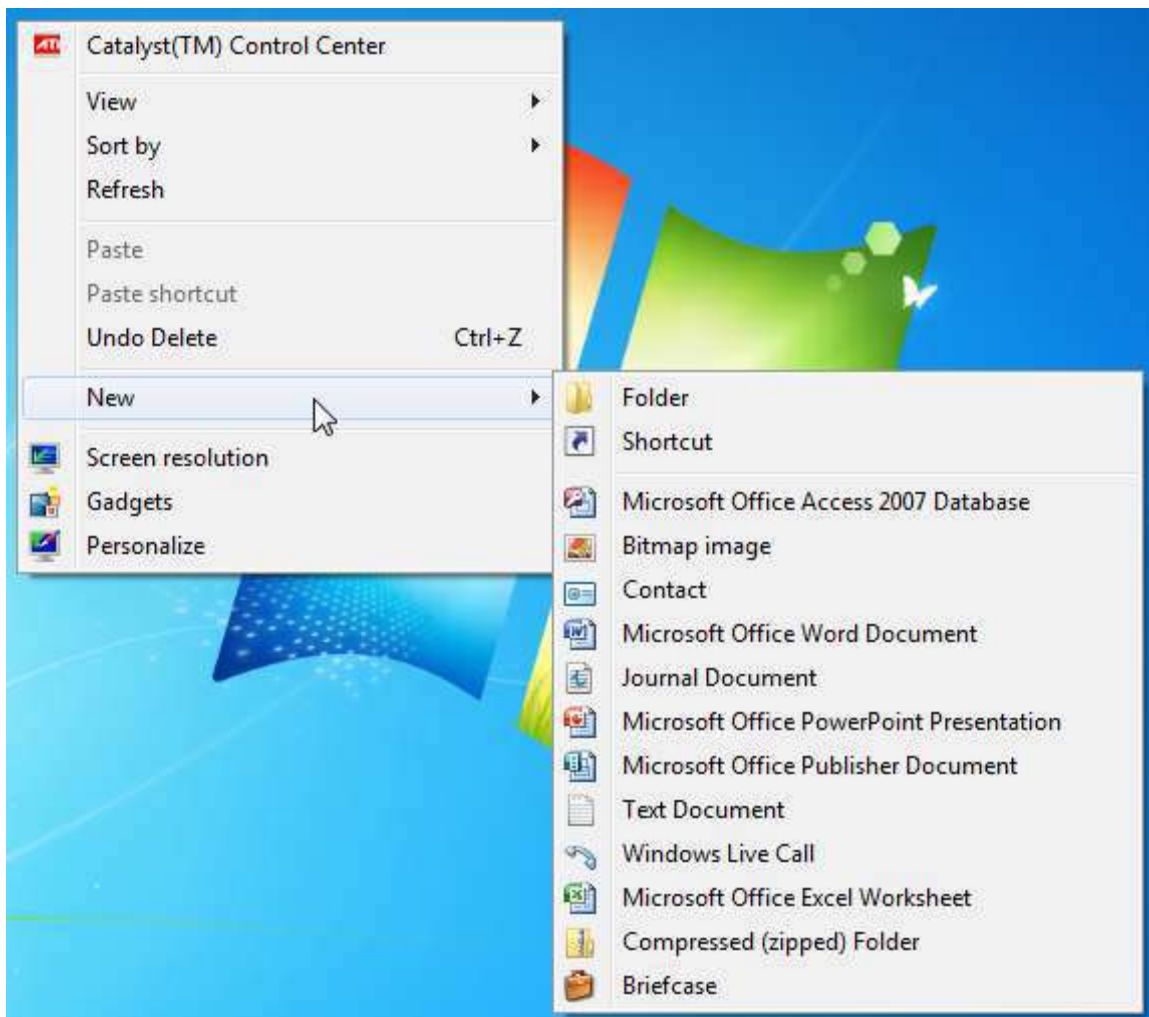
If you click Delete, Windows will ask you to confirm your choice:



Windows will not allow you to delete a folder if any of the files contained inside are already in use.

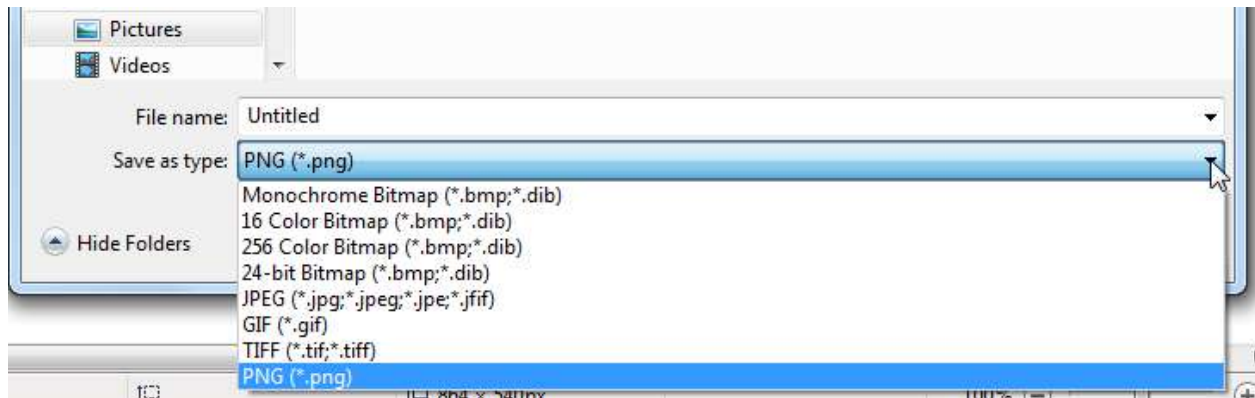
## Creating and Naming Files

Creating a file is easy to do and is very similar to creating a folder. If you are not using a program but know that you want to create a new text document (usable by Notepad and others), right-click on an empty space on the desktop or in a Save dialog, point to New, and then choose the file type:



When you see the new icon appear on the desktop or in the Save dialog box, type a new name for the file and press Enter.

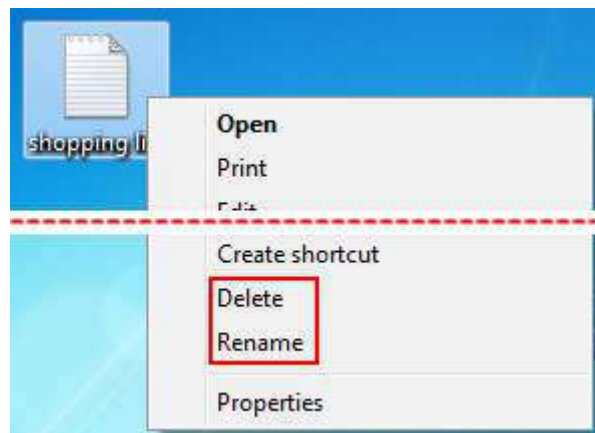
Sometimes programs are capable of saving a file in more than just one format. Paint, for example, can save an image file in eight different image formats:



Click the pull-down arrow beside the Save as type box and choose a format. Then enter a name in the File name box and click Save. (Notice too that Paint will save a file by default in the Pictures library.)

## Renaming and Deleting Files

As you may have guessed, you can rename and delete a file just as you can a folder. Right-click the file and click the appropriate command. Keep in mind that you cannot rename nor delete a file while it is in use:



## Cutting, Copying, and Pasting Files and Folders

Nearly every file type and every folder can be cut, copied, and pasted. If you are not already familiar with these commands, they are used extensively by many programs.

The Cut command will remove the information from one location and store it in a special part of the operating system called the clipboard. The clipboard is a repository memory location that can only hold one item, but that item can be of any size. Using the Paste operation, the object that was cut can be placed somewhere else one time.

The Copy command makes a 1:1 copy of the original and keeps it in the clipboard. The object can then be pasted as many times as needed into a location. Whenever a new item is cut or copied to the clipboard, it overwrites the old object.

These concepts are best shown by example. Imagine you are looking at a word processing document and want to perform some editing on the document:

Title  
Opening Paragraph  
Paragraph 1  
Paragraph 2  
Paragraph 3  
Conclusion

You want to remove the title, blend the Opening Paragraph into Paragraph 1, and move Paragraph 3 before Paragraph 2. You can simply erase the title if it is no longer needed, though you could cut it if you like. Next, combine the opening paragraph and Paragraph 1 together:

Opening Paragraph / Paragraph 1  
Paragraph 2  
Paragraph 3  
Conclusion

To cut and paste Paragraph 3 and put it in front of Paragraph 2, highlight Paragraph 3:

Opening Paragraph / Paragraph 1

Paragraph 2

Paragraph 3

Conclusion

Then press Ctrl + X to cut the object. It will be removed from the document and saved in the memory of the computer:

Opening Paragraph / Paragraph 1

Paragraph 2

| ←

Conclusion

Click between the opening and Paragraph 2 (press Enter to create a new space if you like) and then press Ctrl + V to paste Paragraph 3:

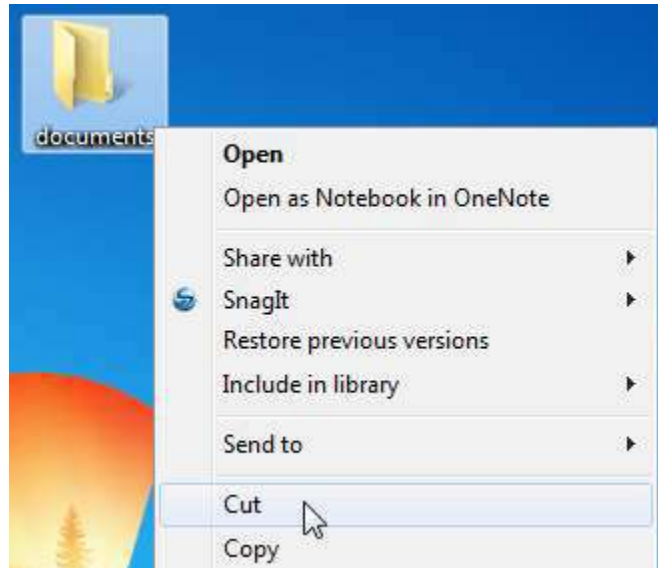
Opening Paragraph / Paragraph 1

Paragraph 2

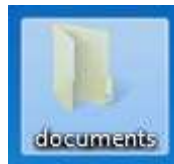
Paragraph 3

Conclusion

The same operation of Ctrl + X and Ctrl + V works for files and folders too. You can cut a folder from the desktop and paste it just about anywhere using these commands. They are also accessible by right-clicking on a file or folder and clicking Cut:



An icon that has been “cut” will appear faded while placed on the clipboard:



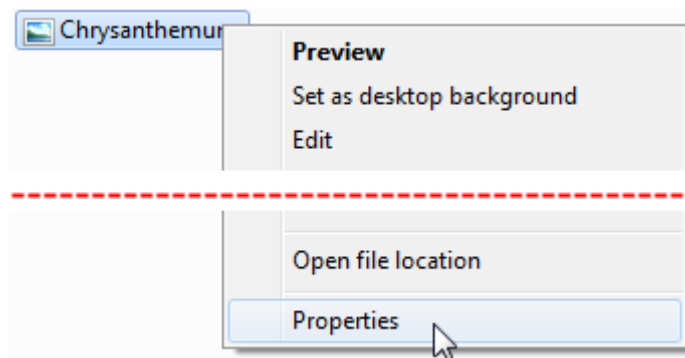
Now open a target location, right-click inside the folder, and click Paste. If you want to place the same file or folder in many locations, use the Copy command. The original object will remain where it is, and a copy will be placed in the clipboard. Now you can Paste the object as many times and you like into many different locations. The copied object will remain in memory until it is overwritten by cutting or copying something else, or the computer is restarted.

## Lesson 4.4: Advanced File Management

Now that you are familiar with the creation and management of files and folders, it's time to learn more about their background functionality. In this final lesson, we will deal with the properties of files and folders, how to share and burn a file, and we will introduce the command prompt.

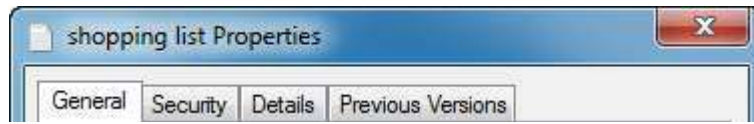
### Viewing File Properties

Every file has properties. These include the date and time of file creation, the name, if the file is labeled as read-only, and more. You can view the properties of a file by right-clicking it and clicking Properties:



The <file name> Properties dialog box will appear. Though every file has different property values, the four main categories of properties are the same for every file.

Let's go over the four main property categories:



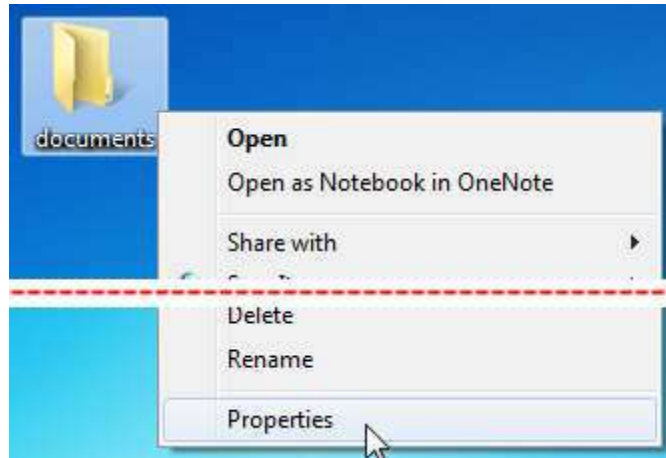
Categories	Description
<b>General</b>	Vital statistics about the file itself, such as when it was created, last accessed, and modified; how large the file is; and more. Some interesting properties include the ability to make the file read-only or hidden. A read-only file cannot be modified or deleted, while a hidden file does technically still exist, but is hidden from the standard file view.
<b>Security</b>	You can restrict which users can see the file and how they can interact with the file. Permission to modify these settings is limited to computer administrators.
<b>Details</b>	Properties listed here are like the properties in the General tab, only these properties are based on the characteristic of file. Some files, such as a picture file, can have over 60 different properties. Which of these properties can be modified in the Properties dialog box depends on the type of file.
<b>Previous Versions</b>	If you used the backup feature of Windows to create a backup of this file (or the folder that contains this file) you can revert a file to a previous version. Select a backup instance from the list and click Restore.

Click OK to accept any changes you have made.

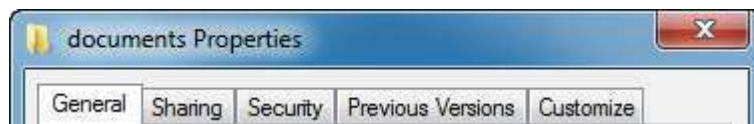


## Viewing Folder Properties

Folders, like files, also have properties. To view the properties of a folder, right-click on the folder and click Properties:



The <folder name> Properties dialog box will appear. Like the File Properties dialog box, it too has common tabs:



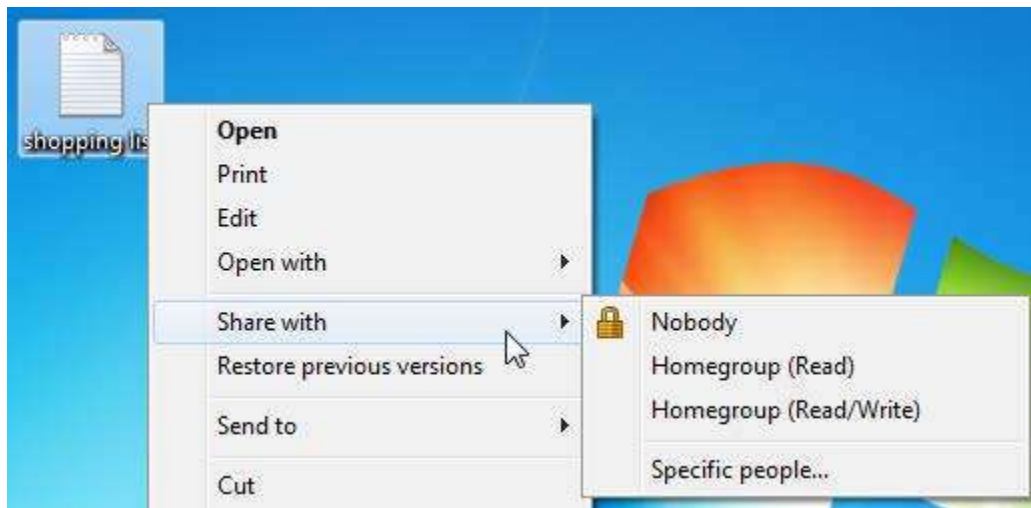
Tabs	Description
<b>General</b>	Vital statistics about the folder such as save location, how large the folder and its contents are, and how many files are contained inside. You also have read-only and hidden properties to enable or disable if you wish.
<b>Sharing</b>	You can share the contents of the folder with another person on your network. You can also allow the folder to be shared over the whole Internet, modify who has which permissions, and more.
<b>Security</b>	You can restrict which users can see the folder and how they can interact with the contents. Permission to modify these settings is limited to computer administrators. Folder security differs from Sharing properties in that the Security settings only apply to local users who have an account on the computer.
<b>Previous Versions</b>	If you used the backup feature of Windows to create a backup of this

Tabs	Description
<b>Customize</b>	folder you can revert a folder's contents to a previous date. Select a backup instance from the list and click Restore.  The Customize tab lets you design the look and feel of the folder itself. You can make a folder look like a Pictures or Music folder, change the picture that is displayed on the folder, and change the picture used for the inside of the folder's icon.

Click OK to accept any changes you have made.

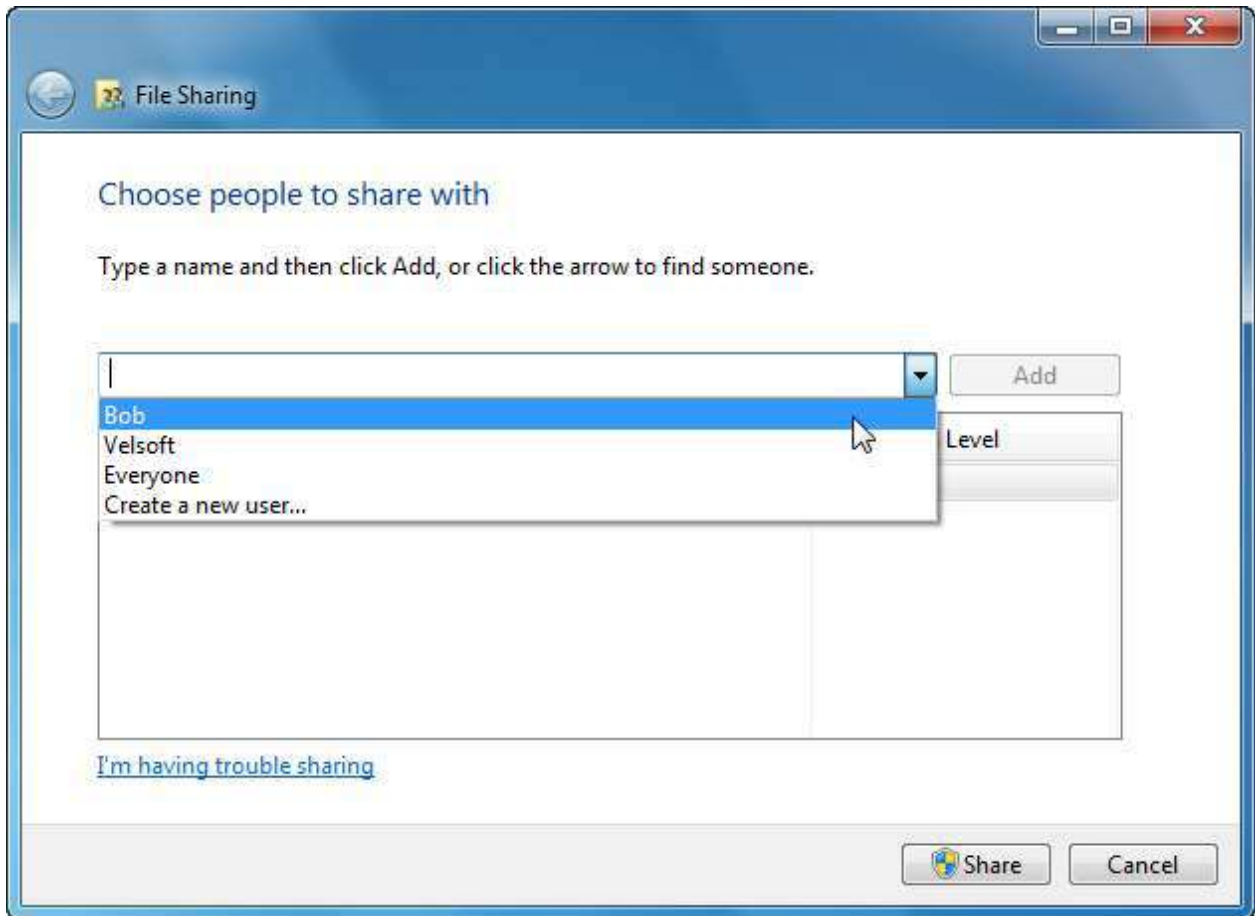
### Sharing a File or Folder

Windows allows you to share a file with other users of the local computer or someone else across a network of computers, including the Internet. To share a file, right-click on the file and click "Share with:"

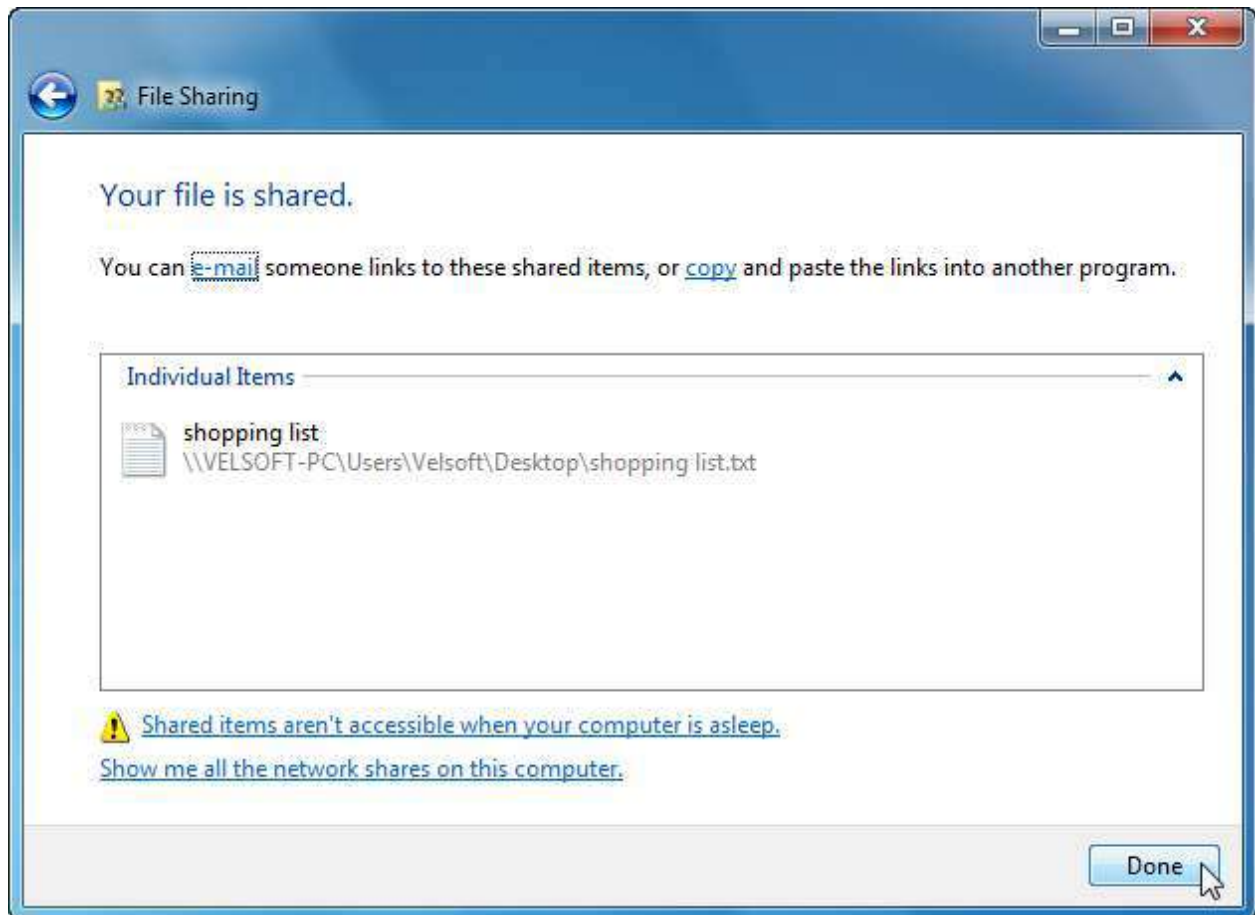


If you select Nobody, that particular object will only be accessible by your account. If you share a file with your Homegroup, other Windows 7 users on the same network will be able to read or read/write (make changes) to the file.

If you click Specific people, the File Sharing dialog will open. Click the pull-down arrow to select a name from the list (or opt to share the file with everyone in the list of users). When you have highlighted a name, click Share:



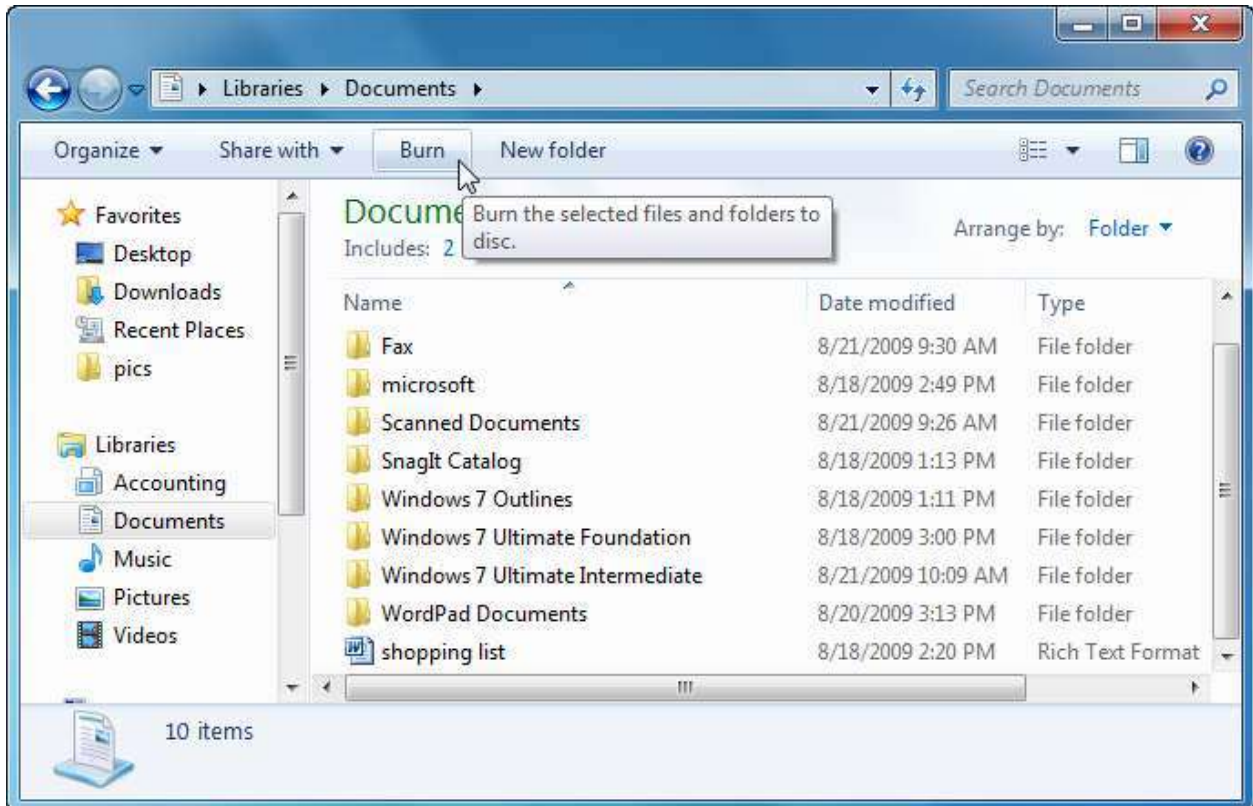
After you click Share, you will be shown a list of successful file(s) that have been shared. Click Done to complete the sharing process:



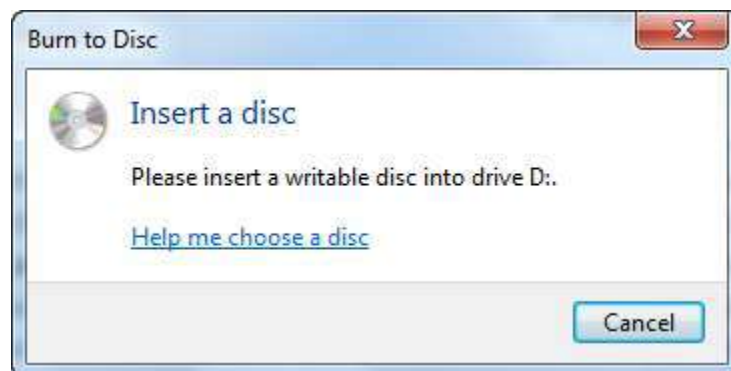
Sharing a folder is very similar. Open the File Sharing dialog box by using the right-click command or the folder properties. Select which user you want to share the folder with and click Share.

## Burning Files, Folders, and ISOs

We know that we can burn any file type to a recordable CD or DVD. Imagine that you want to make a hard copy of all items in your Documents folder. Open the folder to view all files and then click the Burn command:



Insert a blank CD if you haven't already. (We are using a CD-R.)



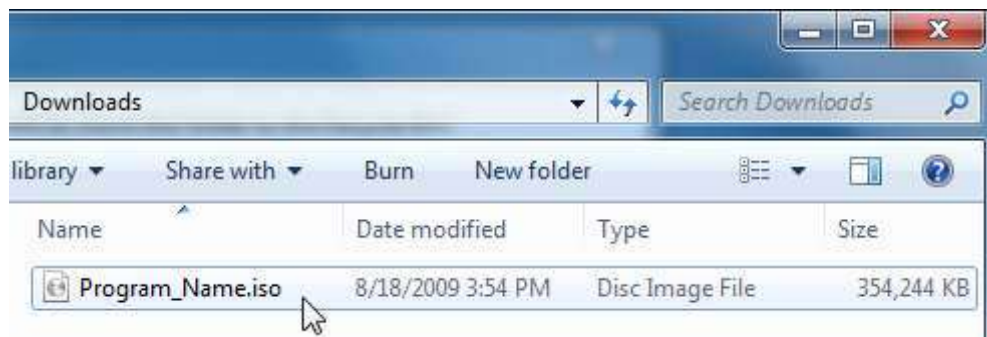
Next, give the disc a title. You may also see the following options depending on your hardware or the type of disc you have inserted. Make your choice and click Next:



Windows will start to burn the files onto the CD showing you progress as the process is working. When completed, the disc will eject and ask if you want to burn another copy of the same thing on a new disc. Once the process is completed, you can browse the disc contents using Windows Explorer or by clicking Start → Computer and then double-clicking your CD or DVD drive.

Windows 7 includes the ability to burn ISO files without having to download a third party program. An ISO file is a CD or DVD image file. If you download programs from the Internet, sometimes the programs come in ISO form. These types of files are usually quite large (hundreds of megabytes) and contain the complete image of a program disc.

Windows 7 will recognize ISO files. To burn an ISO image, just double-click the file:

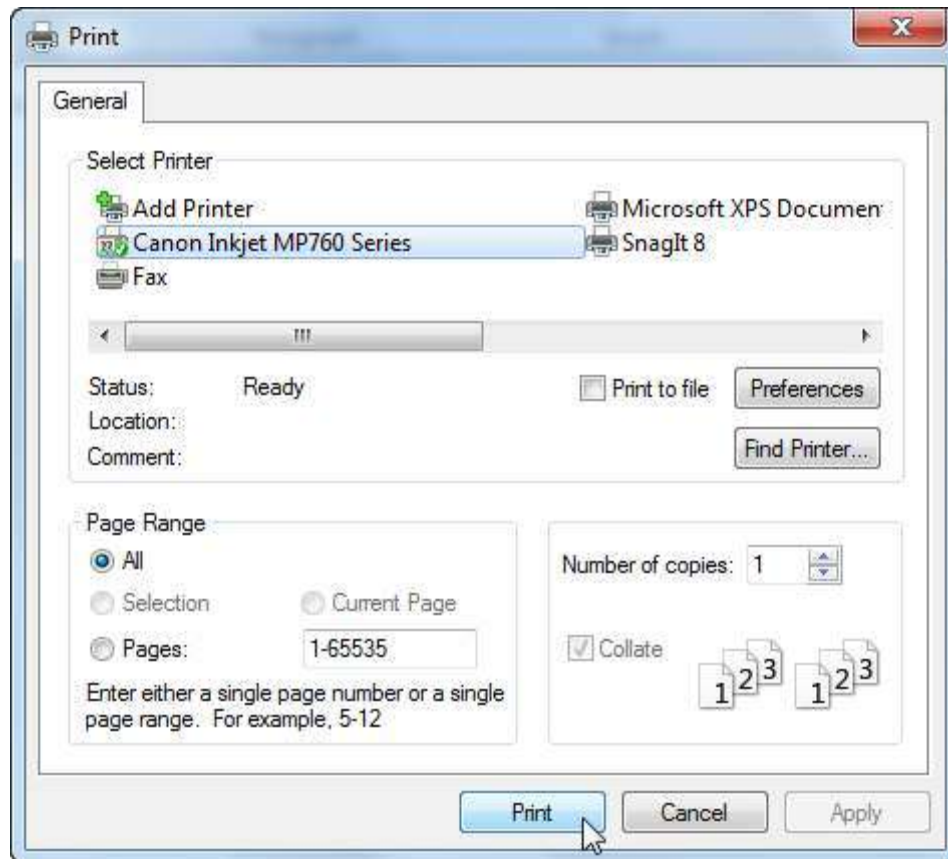


Windows will prompt you to insert a recordable CD or DVD. Click Burn to record the image file:



## Printing a File

Many programs have the ability to print the file you are working on. The printing dialog box is different for each program, and each printer has different specifications. Nonetheless, many of the printing dialog boxes have similar characteristics. Let's look at the Print dialog box for WordPad:



Options	Description
<b>Select Printer</b>	Choose a printer or printing service to print the file. Most users only have access to one printer at a time, and that printer will be installed as the default printer so this step becomes largely unnecessary. However, there are software programs that can take the printed document that your computer would send to a printer and instead turn it into some other document, such as a PDF file that can be viewed on many different computer platforms.
<b>Preferences</b>	Nearly every Print dialog box has a Preferences or Properties button which is used to adjust the settings of the printer. This



Options	Description
<b>Page Range</b>	button will allow you to select your paper size and paper type, print quality, and more depending on the capabilities of your printer.  If your document is more than one page, you have the option to print the entire document, print only selected text (useful when printing from Internet Explorer), printing only the currently displayed page, or printing a range.
<b>Number of Copies</b>	Specify as many copies as you like. Either type a number in the text box or use the small arrow buttons to adjust the range. Windows will keep printing copies as long as there is paper!
<b>Collate</b>	Check this box to activate collation printing. Most printing programs will print multiple copies of a three page document like this: 1, 2, 3, 1, 2, 3, etc. until the desired number of copies has been printed.  If you click the collate checkbox, three copies of a four page document will print like this: 1, 1, 1, 2, 2, 2, 3, 3, 3, 4, 4, 4. This will make separating the document easier in some situations.

Click the Apply button to save the current print settings for future use when using this particular printing program. Click Print to begin printing your document.

## Using Command Prompt

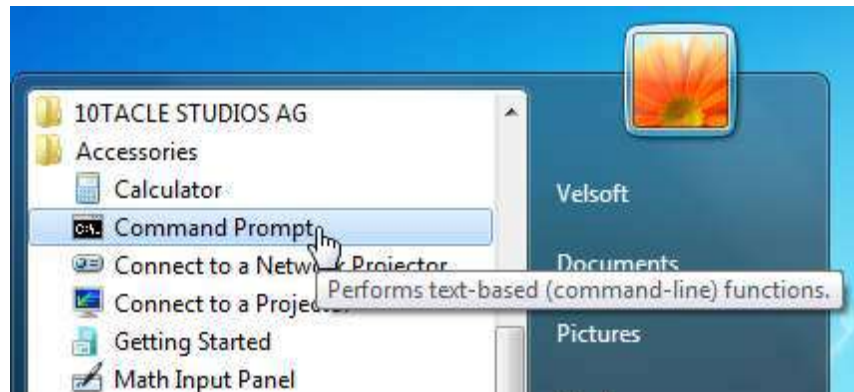
In the days before Windows even existed, Microsoft developed a text-based operating system called MS-DOS. This program performed the same thing Windows 7 (or any other operating system) does today: it allowed users to run programs in an environment where processing power and computer resources are distributed for use. Instead of using a mouse and clicking icons to perform a task, users typed commands using the keyboard.

You may never need to use the command prompt because you have almost complete control of your computer using the visual operating system. Nonetheless, it is important to note that much of the things that happen in the background of a computer happen in a command prompt-like environment.

### **At-a-Glance: *Command Prompt***

- Click Start → All Programs → Accessories → Command Prompt
- Low-level interface used for managing files, running scripts, and other technical operations.

To use command prompt, click Start → All Programs → Accessories → Command Prompt:



You can also click Start, type “cmd,” and then press Enter.

It may not look like much...



...but command prompt allows you to do quite a bit with your computer.

Let's go over some of the more common commands:

Command	Description
<b>Directory Commands</b> (dir, cd, md)	Notice that the first folder you are in is your profile folder. To see the contents of a folder, type dir and press Enter:

```
C:\Users\John>dir
Volume in drive C has no label.
Volume Serial Number is ACC1-9D1A

Directory of C:\Users\John

11/02/2006  11:28 AM    <DIR>          .
11/02/2006  11:28 AM    <DIR>          ..
11/09/2006  07:09 PM    <DIR>          Contacts
11/21/2006  08:52 AM    <DIR>          Desktop
11/20/2006  03:02 PM    <DIR>          Documents
11/02/2006  11:17 AM    <DIR>          Downloads
11/02/2006  11:17 AM    <DIR>          Favorites
11/02/2006  11:17 AM    <DIR>          Links
11/20/2006  11:46 AM    <DIR>          Music
11/20/2006  03:31 PM    <DIR>          Pictures
11/02/2006  11:17 AM    <DIR>          Saved Games
11/02/2006  11:17 AM    <DIR>          Searches
11/02/2006  11:17 AM    <DIR>          Videos
             0 File(s)              0 bytes
             13 Dir(s)  22,215,196,672 bytes free
```

Notice that you can see when all of the directories were created, as well as their names. To change to another directory, use the change directory command. Type cd <directory name> (such as cd documents) and then press Enter. The directory name will change in the prompt:

```
C:\Users\John>cd documents
C:\Users\John\Documents>
```

To move back to a previous directory, type cd .. and press Enter:

```
C:\Users\John\Documents>cd ..
C:\Users\John>
```

To make a directory, type `md <new name>` and press Enter:

```
C:\Users\John>md stuff
C:\Users\John>cd stuff
C:\Users\John\stuff>dir
Volume in drive C has no label.
Volume Serial Number is ACC1-9D1A

Directory of C:\Users\John\stuff

11/21/2006  09:28 AM    <DIR>          .
11/21/2006  09:28 AM    <DIR>          ..
                0 File(s)                0 bytes
                2 Dir(s)   22,107,217,920 bytes free
```

Notice the directory is empty and it has been created with the current date.

**Command****Description****IP Address Tools  
(ipconfig /all,  
/release, /renew)**

Every computer on the Internet has an IP address. This is a series of numbers separated by periods. To see your computer's IP address, as well as many other network characteristics, type `ipconfig /all`. (The `/all` is called a 'switch,' or program argument):

```

ca: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Uelsoft>ipconfig /all

Windows IP Configuration

Host Name . . . . . : Uelsoft-PC
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Wireless LAN adapter Wireless Network Connection 2:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Microsoft Virtual WiFi Minipor
Physical Address. . . . . : 06-15-E9-A8-E9-2C
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wireless Network Connection:

Connection-specific DNS Suffix . . . . . :
Description . . . . . : D-Link AirPlus G DWL-G510 Wire
apter(rev.B)
Physical Address. . . . . : 00-15-E9-A8-E9-2C
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::9559:527c:d5cb:3166%12<P
IPv4 Address. . . . . : 192.168.0.103<Preferred>
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Friday, August 21, 2009 10:07:
Lease Expires . . . . . : Wednesday, August 26, 2009 10:
Default Gateway . . . . . : 192.168.0.1
DHCP Server . . . . . : 192.168.0.210
DHCPv6 IAID . . . . . : 218109417
DHCPv6 Client DUID. . . . . : 00-01-00-01-12-1C-BB-72-00-1B-
DNS Servers . . . . . : 192.168.0.250
192.168.0.210
NetBIOS over Tcpip. . . . . : Enabled

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . . . . . :
Description . . . . . : NVIDIA nForce Networking Contr
Physical Address. . . . . : 00-1B-FC-0C-6B-67
DHCP Enabled. . . . . : Yes

```

If you are having trouble connecting to the internet, `ipconfig` has options to troubleshoot any network trouble you might be having or refresh your network information. Use `ipconfig /release` to drop all network information, and then use `ipconfig /renew` to refresh your information from your ISP or local network.

**Ping**

If you have ever seen a movie involving submarines, you are likely familiar with a sonar ping. In simple terms, a ping is a burst of sound. When the echo of the sound returns, the submariners analyze the waveform and can tell what objects are in the water in front of them

**Command****Description**

such as whales, other submarines, and rocks.

Computers can send a ping, too. However instead of a sound wave, a computer sends a small bit of data to a server, either locally or across the Internet. If the server responds, the packet will come back. In the meantime, the ping command measures how long it takes the response to come back in milliseconds. The shorter the return time, the better the ping. This usually means that the path data travels from your computer to the external server relatively free of traffic and can quickly process information.

The term “ping” is often used in online computer gaming. The faster someone’s ping is, the more responsive their game will be when playing with other people. Someone with a slow ping time or a slow server is said to have “lag.”

To use ping, type `ping <IP address>` or `ping <Web site address>`:

```
C:\Users\John>ping yahoo.com
Pinging yahoo.com [216.109.112.135] with 32 bytes of data:
Reply from 216.109.112.135: bytes=32 time=191ms TTL=53
Reply from 216.109.112.135: bytes=32 time=196ms TTL=54
Reply from 216.109.112.135: bytes=32 time=190ms TTL=53
Reply from 216.109.112.135: bytes=32 time=198ms TTL=54

Ping statistics for 216.109.112.135:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 190ms, Maximum = 198ms, Average = 193ms

C:\Users\John>
```

**Delete  
(del)**

The delete command will erase a file or folder. To erase a particular file, type `del <full file name>` and press Enter. Be careful as the command prompt does not ask to confirm your choice when deleting a file, and the file does not go to the Recycle Bin:

```
11/20/2006 04:47 PM <DIR> My Received Files
11/21/2006 07:56 AM 539 My Sharing Folders.lnk
11/15/2006 09:44 AM <DIR> Scanned Documents
11/03/2006 03:41 PM <DIR> Snagit Catalog
11/21/2006 09:45 AM 0 text.txt
11/12/2006 10:39 AM <DIR> WebDrive
11/20/2006 02:04 PM <DIR> WordPad files
                2 File(s)          539 bytes
                11 Dir(s)      22,113,689,600 bytes free

C:\Users\John\Documents>del text.txt
C:\Users\John\Documents>
```

To delete a folder, type `del <folder name>` and press Enter. You will be

Command	Description
<b>Exit</b>	prompted to confirm your choice. To quit the command prompt, type <code>exit</code> and press Enter.

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