Lesson 4: Printer Friendly

Fun With Pictures

Lessons > Lesson 4 > Printer Friendly

Chapter 1



Introduction

Nothing spruces up a Web page like pictures. In this lesson, you'll learn how to add pictures to your Web pages. You can use just about any picture, such as a picture from a digital camera, as well as clip art illustrations that you can purchase or even find for free online.

Before we go any further, though, it's important to understand that not everything you see on your screen is free for you to copy and use as you please. Many images on many websites are copyrighted. Using copyrighted images without permission from the copyright holder is called copyright infringement. It's against the law and exposes you to some stiff fines. In the Supplementary Material section for this lesson, I'll refer you to some products and websites that offer copyright-free images (also called royalty-free images), which are pictures that you can download and use for free without breaking any laws.

Meet me in Chapter 2, and we'll start with some important general information about pictures.

Chapter 2

Acquiring Pictures

Every computer picture is stored in a file. To use a picture in your website, you first need the picture file. And it can't be just any file that contains a picture. It has to be a file that contains a picture in one of the following formats:

- GIF: The Graphics Interchange Format supports 256 colors plus transparent. Clip art images and other non-photographic illustrations are commonly saved in this format. The filename extension is .gif.
- **JPEG**: The Joint Photographic Experts Group supports millions of colors and is one of the most common formats for photographs. Common filename extensions are .jpg and .jpeg.
- PNG: The Portable Network Graphics format supports millions of colors (like JPEG), plus transparent (like GIF), making it suitable for both types of images. The filename extension is .png.

If you have a picture, but it doesn't have the right filename extension, simply renaming the file and changing the extension won't help. In fact, it'll likely make it impossible for any program to open the picture until you change the filename back to the original extension.

If you need to change a picture's type, you have a couple of choices. You may be able to use a conversion service like the www.zamzar.com website, depending on the current format of the image. It's free, and you don't need any special skills beyond being able to read the online

instructions.

Another way to change a picture from an incompatible format to GIF, JPEG, or PNG is to try to open it in a graphics program on your computer. Then, use the Save As option in that program to save it as a GIF, JPEG, or PNG. I'll provide some guidelines for accomplishing that in Chapter 4 of this lesson.

Copying a Picture from a Web Page

If you don't already have an image you want to use, chances are you can find one online using one of the sites listed in the Supplementary Material for this lesson. Once you find an image, your first step will be to download (copy) the picture from the page to your own site's folder (MyWebsite). Different Web browser brands offer slightly different ways to do this. Here I'll show you how to do it with Internet Explorer in Windows, and with Safari on a Mac.

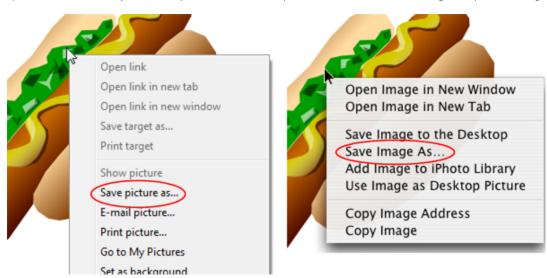
The hot dog image below is free of any copyright restrictions, so you can practice with that. If you're reading a printed copy of this lesson right now, make sure you log into the course and come into Lesson 4, Chapter 2 so you can get your mouse pointer onto the image below to try things out. Then, refer to the steps below the image.



Sample clip art image

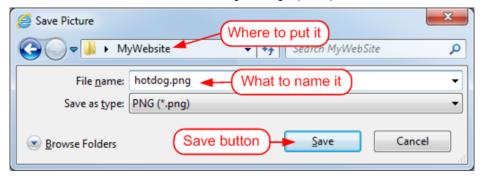
Here are the steps for downloading the hot dog image:

- 1. Put your mouse pointer on the hot dog picture above, and right-click (if you're using Windows) or CTRL + click (if you're using a Mac).
- 2. In Internet Explorer, choose Save picture as (as on the left below). In Safari, choose Save Image As (as on the right below).

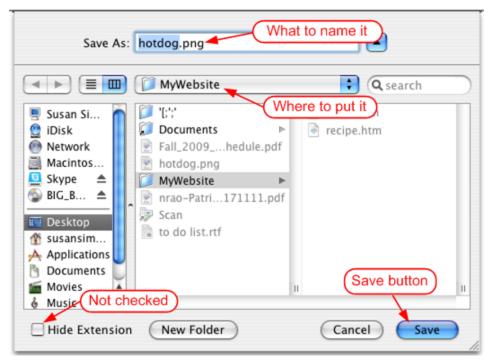


Right-click or CTRL + click the hot dog picture

3. In the Save dialog box that opens, specify where you want to save the image (in your MyWebsite folder for this example), and what you want to name it (hotdog.png). On a Mac (second image below), if you see an option to hide the extension, make sure that it's unchecked. In Web development, it's always good to see filename extensions so you know exactly what you're working with at all times.



Save image as hotdog.png to MyWebsite in Windows



Save image as hotdog.png to MyWebsite in Mac OS

4. Click the Save button.

If you did everything correctly, you now have a file named hotdog.png in your MyWebsite folder. To verify that, open your MyWebsite folder and take a look. You should still have your index.htm and recipe.htm files, plus hotdog.png. If the folder was already open, you may need to close and then reopen it. If you still can't find the hotdog.png image in your MyWebsite folder, perhaps you missed a step above. Try again, carefully following each of the four steps.

In the steps above I had you name the image hotdog.png (no spaces, all lowercase letters). That was intentional. We can use spaces and uppercase and lowercase letters in filenames on our personal Macs and PCs. But remember, Web development isn't just about your personal computer. It's about virtually all of the computers in the world.

Some Web servers that host your page won't allow spaces in file names. Some are case-sensitive to filenames. So unless you already know what your hosting provider's rules are, or want to do research in advance, the simplest thing is to assume the worst when naming files that you intend to use in your website. Consider leaving spaces out of filenames (you can use hyphens or underscores in place of spaces). And come up with some rules for using uppercase and lowercase letters. Or use only lowercase letters, which is an easy rule to remember.

Putting a picture into your website folder won't make it show up in any of your Web pages. That's part of the process, but not the whole process. As you'll learn in the next chapter, you use the HTML tag to display the picture in a page.

I'll see you in Chapter 3!

Chapter 3

Putting Images in Pages

Once you have a JPEG, GIF, or PNG image in your website folder, the next step is to specify where you want it to show. You'll use the HTML (image) tag for that step. The syntax for the img tag is as follows:

```
<img src="path" alt="alternateText"/>
```

As in all syntax examples, never type the words path or alternate Text. The italics indicate that those are placeholders for values you need to supply on your own. Let's take a look!

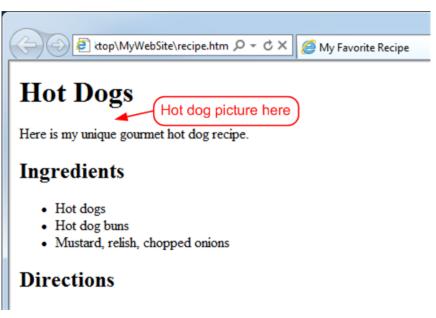
- src: This indicates the source of the image. This can be a relative or absolute path to the image file. If the image is in the same folder as the page that contains the tag, then the path is simply the image filename.
- alt: This means alternate text, a few words that describe the image for screen readers for the blind to read aloud.

Note that unlike other tags you've seen, there's no tag pair here. In other words, it isn't And there are no words between tags. We call such tags empty tags. It may seem a bit of a misnomer because the img tag itself isn't empty. It contains two attributes, src= and alt=. In this context, "empty" means "no opening and closing tags with words in between."

Note

In XHTML, empty tags like img end in /> rather than >. In traditional HTML, they end in >. For now, you don't need to worry about this distinction. The tag will work with or without the / near the end. We'll talk more about the differences between HTML and XHTML a little later in this course.

The placement of the img tag matters a lot, because the image appears wherever you put the tag. Let's look at an example. Suppose you want to put the hot dog picture right below the main title in the recipe.htm page, where indicated below.



Where we'll put a picture

To make that happen, we have to open the source code for the page in an editor, as we've done in the past, and put an img tag at that location. To ensure that the image appears on its own line with some space above and below, we'll put the image tag in ... (paragraph) tags. Here are the steps:

- 1. Open recipe.htm in your editor (right-click and choose Open With > Notepad in Windows, or CTRL + click and choose Open With > **TextEdit** on a Mac, if you're not using some other method of your own).
- 2. Put the cursor just after the </h1> tag of the main title, and press ENTER to start a new line under that.
- 3. Type in the p tags and img tag, and src= and alt= attributes, exactly as shown below.

```
<img src="hotdog.png" alt="Hot dog" />
```

- 4. If you'd like, you can add some blank lines to make the code less cluttered. But it's not necessary to add blank lines. The image below shows the new tag in the page in the correct location under the h1 tag.
- 5. Save the change (choose File > Save in your editor, or close your editor and choose Save when asked about saving your changes).

Ready to try it out? You need to view the page in a browser for this. So double-click recipe.htm, and have a look. If you did all of the steps correctly, the hot dog image will appear just under the main title as below.



Hot dog picture in recipe.htm

If you see the picture in your page, congratulations! Well done.

If instead of the hot dog picture you see only the words Hot dog or an image placeholder like one of the examples below, you made a mistake somewhere.



Sample placeholders for missing images

Did you make a mistake? If so, no problem. You just need to do a little debugging.

Debugging Pictures

As mentioned in earlier lessons, when it comes to typing code, there's no margin for error. Either you type everything just right and it works, or you don't type everything just right and it doesn't work. There's no such thing as "sort of right" when it comes to typing code.

If your image doesn't show when you try to show it in your page, here are some troubleshooting tips you can follow:

- Open the folder that contains the image (MyWebsite in this case), and verify that the image is in that folder.
- Make sure your image has a .gif, .png, .jpeg, or .jpg filename extension. Other file types don't work.
- Jot down the filename exactly as it's spelled in the folder. That includes blank spaces, because the filename hotdog.png isn't the same as the filename hot dog.png (one contains a space, and one doesn't).
- Open the page that contains the tag. Verify that the img tag starts with <img (not <igm or >img or something else).
- Verify that after the img there's a space and src=. That space is required, and make sure you typed src= not scr= or something else!

- · Verify that the image name comes next, is spelled exactly as it's spelled in the folder (including any spaces), and that the image name is enclosed in quotation marks.
- · Verify that there's a space after the image name, and then alt= followed by some text in quotation marks. That alternate text is regular text, not code, and there aren't any specific rules, except that it must be enclosed in quotation marks.
- Verify that the img tag ends in />.

If you didn't get it right the first time, try again. Once you get the tag right, and have saved the page and refreshed the browser, you should be able to see the hot dog picture in the recipe.htm page in your Web browser.

Tip

The most common error is misspelling the filename in the src= attribute of the tag, so that it doesn't match the actual filename. This is another good reason to keep your filename short and simple. Correctly typing a filename like hotdog.png is a lot easier than correctly typing a filename like 11949863031553258814hot_dog__img.png.

Sizing an Image

Every image has a size expressed in *pixels*. A pixel is one tiny dot of light on your screen. The individual dots are too tiny to see with the naked eye. But if you had a microscope or a powerful magnifying glass and could zoom in on a tiny portion of the screen, you'd see each pixel as a tiny colored square.



Pixels, little squares inside the magnifying glass

You don't need to see, or work with, individual pixels. But it's useful to know that they exist because you can size an image by specifying its width, height, or both in pixels. It's a little hard to think in those terms at first. But an easy ballpark estimate converting to more familiar units of measure would be 100 pixels = 1 inch (or 2.5 centimeters). That's not an exact ratio, because a lot depends on the size of the screen that's showing the Web page. But it's okay as an average to estimate how large or small you might want to make an image.

Here's an example: The square below is exactly 100 pixels tall and 100 pixels wide.



100 x 100 pixel square

If you break out a ruler and measure the square, it probably won't be exactly an inch, because a lot depends on your screen size. But you don't have to be exact. A rough estimate is good enough. The picture just has to be large enough to see.

To specify the image width, use the width attribute in the img tag. Here's the syntax for this:

```
width="x"
```

Never type the letter x. Rather, replace x with the number of pixels wide you want the image to be. If you specify only the width, the height will be calculated automatically to maintain the same aspect ratio. The aspect ratio is the ratio of the width to the height, and it defines the shape of the image.

As an example, here's an img tag for displaying the hot dog image with a width of 100 pixels.

```
<img src="hotdog.png" alt="Hot dog" width="100" />
```

As always, put a space before the attribute and enclose the value in quotation marks. The image below shows the hot dog picture with a width of 100 pixels. The original is 200 pixels, so the one below is about half its size.



Hot dog picture at 100 pixels wide

To specify the height, use height= with a similar syntax:

```
height="v"
```

Replace y with the height you want, in pixels. If you specify only the height, the width will be calculated automatically to maintain the original shape. Here's an example of specifying only a height for the hot dog image in an img tag:

```
<img src="hotdog.png" alt="Hot dog" height="50" />
```

And here's how the image looks with that tiny 50 pixel height. Notice that the width has also been adjusted so the hot dog picture maintains its original shape.



Hot dog picture at 50 pixels tall

You can specify both a width and a height. But if you do, there won't be any automatic calculations to ensure that the image retains its original shape (aspect ratio). If you change the shape, you distort the picture, kind of like a funhouse mirror. Here's an example where I've set the width of the hot dog picture to 500 and its height to 50, which changes the original shape and distorts the picture.

```
<imq src="hotdog.png" alt="Hot dog" width="500" height="50" />
```

And here's how the picture looks with this new width and height:



Hot dog picture at 500x50 pixels tall

So the bottom line is that you can control the size of an image, in pixels, using the width= attribute, the height= attribute, or both. If you just use width or height, then the opposite dimension is calculated automatically, ensuring that the image retains its original shape and doesn't get distorted. But if you specify both the width and the height, the shape may change to match those dimensions, which can distort the picture.

That pretty much wraps up the basics of using pictures. In your code, you place an img tag where you want to show the picture. Add a src= attribute to indicate the filename of the image, and the alt= attribute to specify alternative descriptive text to anyone who can't see the picture. If the image is too large or too small at its natural size, you can adjust the size using the width= attribute, the height= attribute, or both.

Come over to Chapter 4 now to learn some more facts about pictures. This is information that all Web developers need to know!

Chapter 4

Using Pictures Wisely

So far, you've learned how to copy pictures from the Web, and how to incorporate pictures into your website using the img tag. You learned to control the visual size of an image using the width= and height= attributes in the img tag. But if you really want to get serious about images, like the pros, you need to understand that the visual size of an image isn't all that matters. The file size matters too. And file size isn't measured in pixels. It's measured in bytes.

If you have some experience with computers (and I assume you do!), you probably know that we don't often talk in terms of individual bytes of space and storage. Rather, we tend to round off to the nearest thousand, million, billion, or trillion. Here are the words and abbreviations we use to round off these numbers:

Name	Abbreviation	Approximate Number	Spoken Number
Kilobytes	K or KB	1,000	Thousand
Megabytes	M or MB	1,000,000	Million
Gigabytes	G or GB	1,000,000,000	Billion
Terabytes	T or TB	1,000,000,000,000	Trillion

Every picture file has a file size, usually expressed in KB or MB. And there are two reasons why file size matters to Web developers:

- The larger a file, the longer it takes to download, so the longer the visitor has to wait. Folks can be impatient. So if they have to wait too long, they might just navigate away from your site before they even see the picture.
- . Most hosting services charge for bandwidth, or the number of bytes your site services. A free hosting service will often put a limit on how many bytes you can serve, and it'll just stop serving if you exceed your limit. If you use larger files, it's more likely that you'll exceed your bandwidth limit.

Exactly how long it takes to download a file depends on the speed of the user's Internet connection, which can vary a lot. There's no exact cutoff point for what's acceptable and what isn't. Rather, the goal is just to be prudent in terms of not using files that are unnecessarily huge. File sizes under 1MB are good. Under half a megabyte (500K) is even better.

Pictures you download from the Internet are usually fine, in terms of file size, because the people who served them to you already understand how it all works and probably already made the picture a reasonable size. But pictures from digital cameras tend to be huge, because huge is good for printing and good for editing in graphics editing programs. But huge files aren't good for use in Web pages.

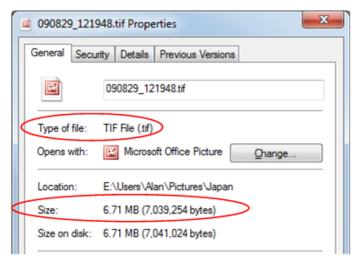
If you intend to use your own pictures, you'll need to be aware of their sizes and file types (remember, only JPEG, GIF, and PNG work on the Web). If a picture is too large, or not the right file type, you'll need to make some changes. So first you need to do a little investigating.

Unfortunately, I can't give you an example here, because there are too many different types of cameras, pictures, computers, and so forth. But I can give you some general guidelines that you can try if you have pictures of your own that you'd like to use in a website. The first step is to open the folder that contains the picture you want to use. Then take a look at the picture's properties (information), as follows:

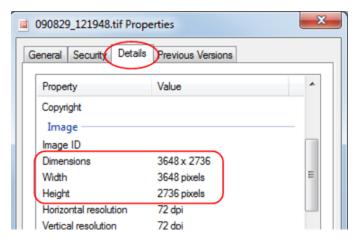
1. In the folder that contains the picture, put the mouse pointer on the icon or thumbnail image of the picture you're thinking of using.

2. In Windows, right-click the picture, and choose Properties. On a Mac, CTRL + click the picture, and choose Get Info.

In Windows, the things you're interested in are the Type of file and the Size on the General tab, and the Dimensions on the Details tab. Take a look at the images below.

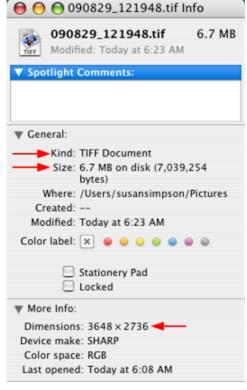


General properties for a picture (Windows)



Details for a picture (Windows)

The same information is available for most pictures in an Info dialog box on a Mac. See below.



Picture info (Mac)

The hypothetical image referenced in the example above isn't a good candidate for use on a website. And there are several reasons why:

- The picture is a TIFF file (Tagged Image File Format), which isn't one of the acceptable file types for Web publishing.
- The width dimension (3,648) is much too wide. Most people probably browse with their browser window at 1,000 pixels wide or less.
- The file size (6.7MB) is way too large. It's best to keep each image under 1MB—or better yet, under half a megabyte (500KB). Reducing a picture's dimensions will also reduce its file size.
- Short, simple, meaningful file names that are easy to type into the src= attribute are best, and this filename is 090829_121948.tif. Not particularly short, simple, meaningful, or easy to type!

So is there any hope for using this picture in a website? The answer is "yes." If you work for a company that has graphic artists, you can just send them a copy of the image and tell them that you want to use it on the Web. They won't have any problem getting it to a reasonable size and appropriate format. But if you don't have that luxury, you can probably do it yourself. I can't give you step-by-step instructions for every imaginable situation, but I can give you some general guidelines that might work.

Warning

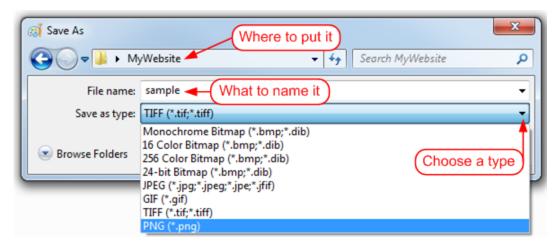
Never take chances with precious photos! If you're just learning, always make a copy of your picture first. Learn and experiment with the copy. If you make a mistake that ruins the copy, it's no big deal. You still have the original.

If you use Windows...

If you use Windows, and the picture is currently in a format that you can open with Paint, you can edit it with Paint as follows:

- 1. Still in the folder where you can see that picture's icon, right-click the icon and choose **Open With > Paint**.
- 2. In Windows 7, click the File tab (just to the left of the Home tab). Or click File on the menu bar in other Windows versions. Then choose Save As from the file menu.
- 3. In the Save As dialog box, specify your website folder as the place to save the file.
- 4. If you want to change the filename, type a simpler filename in the File Name box.
- 5. If you need to change the file type, click the Save as type arrow and choose JPEG, PNG, or GIF. PNG is probably the best quality,

and it's okay for photos as well as illustrations.



Saving a picture

6. Click OK.

That gets a copy of the image into your MyWebsite folder, and it makes it the right type (assuming you choose JPEG, GIF, or PNG from the Save as type drop-down menu).

If the image is too large, you can shrink it down while you still have it open in Paint. If you're using Windows 7, click the Home tab in Paint, then click Resize. In Windows XP or Vista, choose Image > Stretch/Skew from the menu bar. You'll see options similar to these:

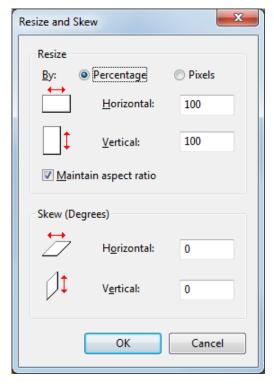


Image resizing in Paint (Windows 7)

If you're using Windows 7, make sure that the Maintain aspect ratio box is checked so you don't accidentally change the shape of the picture and distort it. Choose Pixels, and set the pixel width to whatever you think you might use in your page. For example 600px is usually plenty.

If you're using Windows XP or Vista, you won't have Pixels as an option. You'll have to work in percentages. For example, if your image 3,648 pixels wide like our sample, 10% will make an image that's 364 pixels wide, and 20% will make one that's 729 pixels wide—and both are more reasonable for a website. Set your Horizontal and Vertical numbers to the same number.

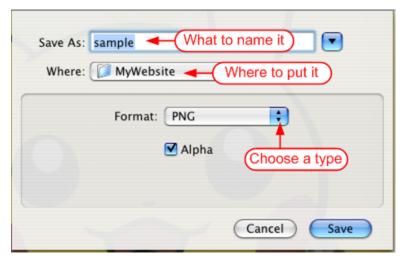
Then click OK. Close Paint (click the X button in its upper right corner), and choose Yes if asked about saving your changes.

If you're using a Mac ...

1. On a Mac, make sure you're in the folder that contains the picture, put the mouse pointer on the picture's icon, hold down the CTRL

key, and click. Choose **Open With > Preview App** to open it in the Preview application.

- 2. Choose File > Export from the menu (or File > Save As if you don't see an export option).
- 3. Set the *Export As* or *Save As* option to the filename you want to give to this copy of the picture, and the *Where* to your website folder. If the image isn't already GIF, JPEG, or PNG, choose one of those formats (PNG is good for illustrations and photos). If the image contains any transparency, you may see an Alpha checkbox. Leave it checked to preserve that transparency.



Save an image (Mac)

If you need to resize the image, you can do that in the Preview app too, so long as you're using a recent version of Mac OS, such as Leopard. Just choose **Tools > Adjust Size**. Make sure the **Scale proportionally** checkbox is selected (checked). Then set the pixel width you want. If your Preview app doesn't have Adjust Size, you can save the image as it is. Then use a site like www.shrinkpictures.com to make a smaller version of the image.

Once you have the image in your MyWebsite folder, you can show it in a Web page the same way you would with any other image. Just put an tag into the page where you want to display the image (like we did for the hot dog picture earlier in this lesson).

Feeling pretty accomplished? We covered a lot in this lesson! Let's meet in Chapter 5 and wrap things up.

Chapter 5

Summary

In today's lesson, you learned how to add pictures to your Web pages. Here are the two key facts to remember:

- The image should be a GIF, JPEG, or PNG image that's in the same folder as your Web pages.
- Place an tag in the page at whatever location you want to show the image within that page.

If an tag doesn't work when you view the page in a browser, you've most likely made a typographical error in your code, or you didn't spell the filename correctly. Verify that the filename in the src= attribute exactly matches the actual filename. And of course, make sure all the spaces and quotation marks are in the right place too.

When using your own images from digital cameras, file type and file size can be an issue. In this lesson, I showed you some simple, basic techniques for dealing with that. If you're interested in learning more about working with graphic images, you might want to consider taking a course in PhotoShop or PhotoShop Elements.

In the next lesson, you'll learn about another common element used in websites and other types of documents: tables. See you there!

Supplementary Material

Clker.com

http://www.clker.com

Here's a website with lots of free clip art and no strings attached. Once you find an image you like, right-click or CTRL + click it to start the download. There are other options for editing SVG files and such, but those are really only relevant to using a GIF, JPEG, or PNG file in a website.

Clip Art Software Review

http://clip-art-review.toptenreviews.com/index.html

Some people prefer to just buy clip art collections to avoid the hassles of trying to find images on the Web. Here you'll find reviews of some boxed clip art collections.

Trying to Define Megapixels?

http://www.digital-slr-guide.com/define-megapixels.html

This page has everything to do with digital cameras and almost nothing to do with Web development. But it's a very good explanation of the term *megapixel*, and it's related to this lesson in the sense that we've covered both *mega* and *pixel* in this lesson.

Public Domain Photos.com

http://www.public-domain-photos.com/

Here is a great resource for public-domain photos and clipart images you can use in your website for free, without fear of copyright infringement.

FAQs

Q: When I save my image as a JPEG, I get to choose a Compression. What does that do?

A: Compression helps control file size by removing detail from the image. It doesn't change the dimensions (visual size) of the image. Typically, you get to choose an option along a slide with low quality (high compression) on the left, and high quality (low compression) on the right. If you choose a high quality (like 98%), you get a sharper picture, like the one on the left. The file size on that one is about 35KB. If you choose a lower quality, like 25%, you get a slightly grainier, blurrier picture, like the one on the right. Its dimensions (height and width) are the same as the picture on the left. But its file size is only about 5KB rather than 35KB. They look very similar. But if you look very closely, you can see that the image on the right is more grainy—a little blotchy.





High quality (left) and lower quality (right) JPEG image

Q: If file size is such a big deal, why not just save every picture as something tiny, like 50 pixels wide, but use width= in the img tag to show it at 300 pixels wide?

A: Because the more you try to stretch a picture beyond its actual dimensions, the worse it looks. For example, the image below shows the result of reducing the photo of the girl above to 50 pixels, and stretching the image to 300 pixels by using width="300" in an img tag.



Results of trying to stretch a small picture too far

Q: I'd prefer to put all of the pictures for my site in a folder named images within the site folder. Can I do that?

A: Yes, but you'll need to type the relative references in your src= attributes accordingly. Rather than just the filename, you'll need the folder name followed by a forward slash, then the filename, like this:

src="images/myphoto.jpg"

...where images is the subfolder name and myphoto.jpg is the image filename.

Q: What are SVG images, and can we use them in our website?

A: SVG stands for *Scalable Vector Graphics*. The specification has been around for many years. However, support for SVG graphics is just getting started, and a lot of people out there don't have Web browsers that can display that image type. So if you use SVG images in your site, a lot of people won't see the image.

Q: Every time I try to save an image in Internet Explorer, it tries to make it a .bmp file. What can I do?

A: Good question! There's a fix for that published here: http://support.microsoft.com/kb/810978. But it's a little technical and might be a bit challenging. As an alternative to those instructions, you can download the image as a bitmap, open in Paint, and save it as a PNG, GIF, or JPEG as discussed in Chapter 4 of this lesson. Or you could download another Web browser for free, such as Firefox (www.firefox.com) or Safari (www.apple.com/safari) and use that to download your images.

Assignment

For today's assignment, I'd like you to download one more graphic image and put it in your MyWebsite folder with the filename *welcome.png*. After you've completed the download, add an img tag to your index.htm page to display the image under the first title. Here's the image to download:



Sample welcome.png image

After you've copied the image to your MyWebsite folder, open index.htm for editing, and put in an tag to display the image just under the first heading. When you view the page in a browser, the image should appear just below the heading, as below.

Tip

When copying the image, make sure you copy the one above this tip, not the screen shot below this tip. After you complete the assignment, your image will be leftaligned in the page as below. We'll talk about ways to center things later in the course. For now, try not to worry about that. Let's just focus on typing your tags correctly.

Welcome to My Site



This is text on my home page. I am a sentence that contains some boldface text and some italic

Part of index.htm in a browser after adding an image

Go ahead and try to do the assignment without peeking at the instructions. If you can't quite do it, even after reviewing the lesson, first take a look at the debugging steps in Chapter 4. If it still proves a bit too challenging, use the link below to see step-by-step instructions. Clicking on the icon below will open a new window or tab in your web browser.



Back to top

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web-1