

Chapter 1

Explaining Web Hosting in Real-World Terms

In This Chapter

- ▶ Understanding what web hosting is
 - ▶ Mastering the language
 - ▶ Simplifying the different concepts and technologies
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Web hosting is a massive industry. With hundreds of millions of websites currently online, people all over the planet are finding themselves diving into a strange new world of technology that they've never explored before. It can be confusing and intimidating at first, and many people never quite grasp what hosting is all about, what it does for them, or how it affects them.

In this chapter, I explain the whole system of web hosting, paralleling every aspect of it with things that you already know and understand in the real world.

I start by getting some confusing terminology out of the way.

Many different terms can be used to describe web hosting, such as the following:

- ✓ Web hosting
- ✓ Website hosting
- ✓ Self hosting
- ✓ Blog hosting
- ✓ Hosted website or blog

The different names can be confusing at first. However, with the exception of “hosted website,” they all mean that you have complete control of how your website is made available to the world.

In the case of a hosted website or blog, the hosting and all its related functions are done by another company. All you get is the facility to build your site, without any access to the powerful tools behind the scenes. This has its advantages and disadvantages. The biggest advantage is that you don’t have to worry about any of the background functions behind your site; you just get to do all the fun stuff.

The disadvantage to a hosted website is that you are restricted in what you can do by the host in a multitude of ways.

If you start out with a hosted site, it’s most likely that after a year or so you will find that the limits and restrictions imposed by your host make it too difficult for your site to expand the way you want it to. This is the time to move to self hosting.

Conceptualizing Web Hosting

For any website to be available for viewing on the World Wide Web, it has to be on a computer that is connected to the Internet. The computer your site is on is known as its *host*.

The host can be any computer at all, anywhere in the world. Your computer at home can host your website, if you want. You could also use a computer in your office, in a warehouse, or even in a shed. All you need for the host are

- ✓ Power
- ✓ An Internet connection
- ✓ A dedicated IP address

Each computer or device that connects to the Internet has an IP address. This address is unique and allows other computers on the Internet to find you. It’s just as unique as the street address of your house. Most homes and even some businesses have a *dynamically allocated* IP address, which means that their Internet Service Provider (ISP) allocates the person or business an IP address each time a connection is made to the Internet. The IP address could be different for every connection.

For a site to be readily found online, it needs to always have the same IP address, which is called a *dedicated IP address*.

Think of it as a party. The person whose house the party is at is called the host. In the same way, the computer that your website resides on is the website host. That host has an address, which is how you can find the party. Likewise, your web host has an address, which is how the Internet finds your site.



The *IP* in the term *IP address* stands for *Internet Protocol*. The current version is Internet Protocol version 4 (IPv4), which has numeric addresses in the format xxx.xxx.xxx.xxx. There are approximately 4.29 billion possible combinations — and thus, 4.29 billion possible addresses. The problem with that, though, is that each device requires its own address. There are so many devices connected to the Internet that we're just about to run out of addresses. The solution is to move to IPv6, which has billions of times more addresses and is starting to be phased in now.

You could get your own dedicated IP address at home and host your site on your own computer, but what happens when the power goes out, your Internet connection goes down, or you need to reboot your computer? All of a sudden your website wouldn't be available for anyone to see, which would be bad.

Imagine each website you visit is in a house. Wouldn't it be annoying if you couldn't get to Google.com because the house it is in has a power outage? Or what if you couldn't open Amazon.com because it was on a computer in someone else's house and the phone lines went down?

The Internet would be terrible if that were the case. Sites would be up and down like yo-yos, and you would never be able to rely on a site to be up when you wanted to visit it.

The solution to this problem is web servers, which, as the name suggests, are dedicated machines that exist solely to serve websites to whomever wants to see them.

Servers are located in buildings called *data centers*, which are built specifically for housing web servers. Data centers have all manner of backup systems and generators to ensure everything keeps running smoothly. They have Internet connections coming in from multiple different companies so if one or more go down, there are always others to take the load. They have a whole host of other safety features — all with the aim of making your site available 24 hours a day, seven days a week.

Each server can host multiple websites, depending on the size of the sites. This is called *shared hosting*. Some servers, however, are dedicated just to one site or to a small number of sites belonging to one person or organization. These are called *dedicated servers*.

That's all that web hosting is. It's simply having space online to house your website and serve it to any visitors who come looking.

Now that you know what hosting *is*, I'm going to explain in simple terms what some of its main functions are and how they relate to your website.

Thinking about Your Site as a Store

To help you understand the different functions involved, I break hosting down for you with an analogy that you can easily understand. This will help you quickly and easily see which functions do what and when you will need them.

Even if you don't intend to use your website or blog to sell things, think of your site as a store and your visitors as customers to that store. The analogy works just as well whether you are selling something or not.



A blog is just a website designed to be easily updated with new posts. In this book, I mostly use the term *website* to mean blogs.

Imagine you are opening a new store. To open your store, you need

- ✓ A name
- ✓ A location
- ✓ Staff
- ✓ Products to sell

If any one of those essential items is missing, your store can't open, so you have to, at the very minimum, have all those things in place.

The same is true of a website. To start a website, you need the following:

- ✓ A name (the domain name)
- ✓ A location (a web server)
- ✓ Staff (someone to maintain and update your site — probably you)
- ✓ Products (something on the site for visitors to read/see/buy)

Without those four basic elements, you cannot get your website up and running.

In your hypothetical store, you might also want the following items:

- ✓ Security
- ✓ Advertising
- ✓ Decor
- ✓ An office
- ✓ Keys to get in
- ✓ Insurance
- ✓ An easy way to get new stock

These things are also available for your website. Security and advertising are self-explanatory, but the other items in a brick-and-mortar store translate to the following things on your website:

- ✓ Decor = the design of your site
- ✓ An office = your hosting control panel
- ✓ Keys to get in = your username and password
- ✓ Insurance = a good backup system
- ✓ A way to get stock = FTP



FTP stands for *File Transfer Protocol*. Most people don't realize that the *http* at the beginning of a web address stands for *HyperText Transfer Protocol*. The difference between the two is that when you specify *http*, the computer knows that you want to open the file and display whatever is inside it. When you use *FTP*, the computer knows you want to transfer the whole file to another location rather than displaying it.

Giving your store a name

When you open a store in the real world, the name is not the first thing you need. It helps to have the name first, but it isn't essential. In the hosting world, though, the site name, known as the domain name, is the first thing you need to decide on.

You can't buy hosting and start designing your site until you have decided on a name and have purchased the domain name. See Chapter 2 for an explanation of how to pick a name.

Finding the right location (and landlord)

As I explain earlier in this section, you should picture your website as a store regardless of whether you're actually selling anything.

Remember that in this analogy, your hosting is like a building that your store is in, and your website is the decor, products, and everything else that goes inside the store.

When you first open a store, you need to find a building you can lease in a good location at the right price.

You may want it in the local shopping mall, but that has its drawbacks because then you're restricted by the mall's opening hours and by its rules and regulations about what you can and can't do.

Alternatively, you may want to lease some property of your own or get some space in a strip mall. With the strip mall, you have more freedom but are still somewhat restricted; if you lease a piece of land, you're free to do whatever you like on it (providing the city council allows you).

Finding somewhere to host your website is the same. You can go for a hosted website as described earlier in the chapter, but a hosted site is like being in a mall. The plethora of restrictions might outweigh the benefits.

You can locate your site in the web-hosting equivalent of a strip mall — a shared server. There, you're fairly free to do what you want, but you're sharing the space with possibly hundreds of other sites, and some things you do might affect them (and vice versa).

The final option is to lease your own server. Like leasing your own plot of land, nobody can tell you what you can and can't do on your own server.



Don't try to go too big too fast; your web hosting can grow with your website. Unless you know you will be getting thousands of visitors from the get-go, you don't need top-of-the-line hosting right from the start.

With a physical store, not only do you have to find the right location, but (unless you buy the land yourself) you need to make sure you have a landlord you can work with.

Your landlord leases you the building and is responsible for the physical building. It's his responsibility to make sure the walls are sound and the roof doesn't collapse, but beyond that, everything is up to you. If one of your racks or product display stands breaks, it isn't your landlord's responsibility. It's yours.

The same is true of your hosting. The web hosting company you buy hosting from is renting you space on a computer connected to the Internet. It's the web host's responsibility to make sure the computer keeps working and the Internet connection stays live, but beyond that, it's all up to you.

Most store owners only contact their landlords to pay the rent or to tell them when there is a problem with the building. Likewise, website owners only need to contact the web hosting company to pay the hosting charge or to report that the server seems not to be working correctly.

Ask around online to find out how good your chosen web host is as a landlord — in other words, how good the host's service, response time, and communication are.

Hiring the right staff

Before paying for hosting, think about who is going to keep the website updated. If you were opening a business, you'd have to think about what staff you are going to have in the store, whether you'll sell enough to pay them, and whether you'll ever get any sleep with all the work you'll have to do.

Keeping a website updated is very similar. Whether you're creating a site for your community group, a blog, or even an online store, who is going to keep it updated? It always sounds easy, but the challenge of writing every day or remembering to update the website with new events or even adding and deleting products can soon drive even the most patient person to insanity.

Stocking the shelves

It is not enough to open a store and stock the shelves once then never restock them. The stock on the shelves needs to be replenished regularly or people will have nothing to come back to buy.

Likewise, unless the content on your website changes regularly, there is nothing new for people to come back to your site for. Not all websites need to be updated daily, but regular new information gives your visitors a reason for continuing to return on a regular basis.



Your hosting plan and your website are not the same thing. Your hosting plan is the facility that gives you a location in which to house your website. The website itself is comprised of the files, databases, and pages that create something viewable to Internet users.

If you picture a store, you generally think of a building with products inside. What you're seeing, though, is two separate parts: a building and the decor/products. If you take the decorations, racks, products, and everything else out — and even take the sign off the front — the building is still there.

Hosting is the building. It's empty; it simply provides space for you to work in. Your website is everything that's inside the building. Delete your website and the computer it was hosted on still exists (and you'll still be charged for your hosting plan whether you're using it or not).

Every store needs an office. Somewhere where you can sit and relax without being in front of customers. Somewhere you can do all the background administration the store needs. For the hosting plan, that's called the control panel or the dashboard.

Your control panel is where you administer the hosting, set up passwords and e-mail accounts, and do all the back-end stuff that is related to the hosting but not specifically the site. With most hosting companies, you can run multiple sites under one control panel, like having a central office doing the administration for a chain of stores.

You need a lock and keys to keep your office safe, and that's your control panel's username and password that your host will have provided for you when you registered for hosting.

Stores need a way to get stock in and out, so where possible they have a loading bay. The loading bay is typically at the back so the customers don't see the deliveries being made and can't interfere with them.

FTP provides a loading bay for your website. Any time you need to update the site in any way, FTP is the tool you need to do that. It's like a delivery driver. You tell it which files you want delivered and where you want them delivered and the FTP does the rest.

Finally comes the part everyone hates — insurance. Nobody likes making insurance payments until something goes wrong, and then they're really glad to have insurance and wish they had paid a little more to get even better coverage.

Website owners face the same problem. Nobody wants to pay for daily backups — or even weekly or monthly ones — and many people choose not to, but then their website goes down and they *really* regret not having paid for the backup service.

Just as I would suggest that any company get insurance, I absolutely recommend that website owners get a good backup system.

Avoiding Misconceptions and Missteps

Building websites and purchasing web hosting are things that are still new concepts to most people. Knowing who does what and who is responsible for what does not come naturally.

A few things trip up many people. The next sections describe these things so you don't fall into the same mistakes.

Know what to expect from hosting support

Your web host will offer support in some manner. Some hosts offer phone support or an online chat option, whereas others might only offer support through an e-mail or ticket system. Either way, there are limits to what your host can do for you.

As I mention in the section “Finding the right location (and landlord),” your host's responsibility is to provide you with a computer connected to the Internet to host your website on.

Generally, the hosting support desk will work with you to ascertain whether the problem is with your site or the hosting plan. If it turns out to be your site that is causing the problem, most hosts will tell you to find someone to help you fix it, or they may offer to help fix it for an extra charge.

It would be unreasonable to assume that your host would be an expert in whatever language or script your site is hosted with and would have staff available to fix every problem you come across with the site you are creating.

Make sure that you identify in advance other ways to troubleshoot problems that arise with your site for those situations where your host cannot help. Knowing where to turn in an emergency can be a great comfort in itself.

Recognize that you're the owner and you're the responsible party

Whenever anything goes wrong at home, I always look for someone else to blame. My poor kids get the blame for everything!

The same is true online. Whenever something goes wrong, it's always someone else's fault. I never do anything wrong — at least, not that I'll admit.

The problem with that attitude, though, is that it gets me nowhere when something goes wrong with my website.

What I've learned, the hard way, is that a website is the owner's responsibility. You put a lot of time, work, effort, creativity, and money into creating the site, and, ultimately, if the worst happens and you lose it all then you're the only one who can re-create it. Re-creating it will take a long time.

You must take responsibility for your site and ensure that you have a good, recent backup of it at all times.

In case the server blows up or your host goes bankrupt or some teenager with nothing better to do on a Friday night hacks in and deletes everything you need, you must be sure you have a recovery plan.

Shouting at your host might feel good, and if the problem is the host's fault, suing the company might be successful, but neither of those actions will get your site back.

A website requires simply too much of your valuable time and talent for you to not do everything you can to ensure that you can recover it when disaster strikes.

Don't fall foul of your host's terms and conditions

Did you read the seemingly endless pages of your host's terms and conditions when you signed up?

I didn't think so — I never do either.

Web hosting terms and conditions make for interesting reading, though. You'd be amazed at what they say.

Every host's terms and conditions are slightly different, but here's the general gist of them:

"We've listed a thousand things that we could class as being unacceptable, and if we find you doing any one of them we will most likely suspend your account immediately and possibly even delete it without any notice."

Yes, seriously, your host is like a landlord, but there aren't many laws covering what it can and can't do. This means the host can, if it wants, change the

locks right now and never give you access to your stuff again — for pretty much any reason.

Now, most hosts *won't* do that, but they generally give themselves the option should they need to.

Things that will normally get you in trouble with your host are pornography, illegal content, and phishing sites (where you mimic a bank or other website to try to steal people's login details).

If your site does get suspended, contact your host immediately. You'll probably have to do a little convincing that your site got hacked or you genuinely didn't realize that what you were doing was wrong, but most often your host will at least let you collect your files before deleting the account.

Don't delay in contacting your host, though, because delays can be seen as proof that you knew you were in the wrong and you're not going to fight to get your stuff back.

Don't fool yourself: Unlimited is NOT unlimited

Many hosts offer “unlimited” plans that seem almost too good to be true. You get an unlimited amount of web space and an unlimited amount of bandwidth to use every month.

You know what they say, though: If it seems too good to be true, it probably *is* too good to be true.

Web hosts work on an “average use” system. They know that for every site that has 10,000 visitors a month, there are 100 sites that have only 1 or 2 visitors. Because of this, the hosting companies play the odds. They know that while one site on the server may be using more than its fair share of space and bandwidth and is unprofitable to have as a client, there are dozens or even hundreds that have paid for hosting and are using very little or even none at all.

There are limits to that, though, and although some hosts do offer genuinely unlimited plans, most have a little clause in their terms and conditions that puts in limits. Look for something like, “Any website found to be using excessive amounts of server resources will be suspended immediately.”

There's more to hosting than just space and bandwidth. The site is on a server, which is just a big computer. When people visit your site, the server has to do some thinking to deliver the web pages the visitors want to view. That takes processing time and memory space.

So what your unlimited plan gives you is unlimited storage space and unlimited bandwidth allowance, but a limited amount of processor time and memory use.

That's like saying you can have an unlimited number of cars and an unlimited number of parking spaces, but only a few gallons of gas between them.

Most websites will never use enough server resources for the limits to become a problem, but if your site is successful, you may find your host telling you that you need to "upgrade" your unlimited plan!