

## Internet Basics

In this Learning Unit, we are going to explore the fascinating and ever-changing world of the Internet. The Internet is the largest computer network in the world, connecting more than a billion computer users. The Internet is most often used for three main purposes:

1. **Communication**
2. **Buying and selling (e-commerce)**
3. **Searching for information**

One of the most important things you need to know about the Internet is that it is a self-publishing medium, which means that no one is in charge of the content found on it. Anyone can publish anything on the Internet, whether the information is true or not. Later in this Learning Unit, you will learn some tips for evaluating the information you find on websites.

### Basic Terms and Concepts

Let's start with some basic terms and concepts:

**Internet:** It might be helpful to think of the Internet as a vast system of roads all connecting to each other. You may have heard the term "information superhighway." It's a vast infrastructure of pathways allowing computers to "talk" to each other, even though the computers may use different operating systems. They do this through unique identification numbers called **Internet Protocol Addresses (IP addresses)**.

The abbreviation "www" stands for **World Wide Web**. Many people think the World Wide Web is the same thing as the Internet. It isn't. While the Internet is a large connection of networks (hardware), the World Wide Web is a way to access the information on the Internet. It's like the software you need to run programs on the hardware of your computer. So, the Internet is broader than the World Wide Web.

The Web uses common communication protocols (sets of rules) and special languages. One of these is called **HyperText Markup Language (HTML)**. These special languages act as a bridge, allowing computers to communicate that don't use compatible operating systems. This means that you don't have to use a specific type of computer in order to access a website.

Besides the Web, there are other ways to disseminate information, such as email, File Transfer Protocol (FTP), and Telnet.

### Connecting to the Internet

Now, let's look at how one goes about connecting to the Internet. Before you can start using the Internet, you need to have a way to connect to it. This requires you to have the necessary hardware to make a connection on your end, as well as an Internet Service Provider (ISP) which provides the Internet service to which your computer will connect. Then, you'll need a web browser to begin exploring the World Wide Web.

## Internet Connection Methods

1. **Dial-up:** Dial-up is a method that uses a telephone line, which you connect to a phone jack, just as you would connect your telephone to the wall. Dial-up is the slowest connection method and it requires your computer to have a dial-up modem.
2. **Broadband:** Broadband is a high-speed connection method which can utilize cable, DSL, or satellite. Each of these methods requires different types of hardware.
3. **Fiber-optic:** Fiber-optic communication transmits data by sending pulses of light through ultra-thin optical fiber. Because light travels so quickly, this technology can transmit Internet data at super-fast speeds.

**Internet Service Provider (ISP):** Internet Service Providers are companies that connect you to the Internet – for a fee, of course. ISPs are available on a local, state, and national level. Large communication companies control access to the main lines of the Internet structure. They, in turn, supply Internet access to the smaller ISPs, who pass this along to the consumer. Not all ISPs offer all methods of connection to the Internet. Make sure the ISP you select offers service that corresponds to your connection method and hardware.

**Web Browser:** You'll need to have a web browser installed on your computer. This is a software program that allows you to view web pages and navigate the Internet. Microsoft's *Internet Explorer* is probably the most commonly used web browser. It often comes pre-installed when you purchase a computer that has a Microsoft Windows operating system. There are other free web browsers available, including Mozilla's very popular *Firefox* web browser and Apple's *Safari*. You can have more than one browser installed on your computer.

In summary, you need three basic things to connect to the Internet:

1. **A connection method**
2. **An Internet Service Provider (ISP)**
3. **A web browser**

## Surfing the Web

"Surfing the Web" or "Web Surfing" refers to browsing the World Wide Web by going from website to website in search of something that interests you. Before we talk about how to surf the web, it may be helpful to explain a few key terms. Take note of how they are spelled and used.

A **web page** is a single page of information on the World Wide Web.

A **website** refers to a group of web pages identified by a single domain. For example, all of the web pages on the Indian Hills website begin with "www.indianhills.edu."

A **homepage** is the first or front page of a website. If you were to type "www.indianhills.edu" into your web browser, the first web page that came up would be the website's homepage.

For example: The Indian Hills *website* contains many *web pages*, including the *homepage*.

A **URL** or “**Uniform Resource Locator**” is the unique address of each web page. For example, the URL for the Indian Hills Bookstore is: <http://www.indianhills.edu/bookstore/index.html>

Each URL has several parts that appear in a specific order. Let’s look at each part by using the URL for the Indian Hills Bookstore as an example:

<http://www.indianhills.edu/bookstore/index.html>

**Protocol:** A **protocol** is a set of rules, used to retrieve a specific document. The “http” in our URL refers to HyperText Transfer Protocol. The “http” is followed by a colon and two forward slashes, then “www,” which refers to the World Wide Web.

**Domain Name:** The **domain name** consists of two parts. In our example, “indianhills.edu” is the domain name. where “indianhills” is the **host** and “.edu” is the **top-level domain**. This suffix indicates the type of organization to which the host belongs. As you can probably guess, “.edu” indicates that the host, “indianhills,” is an educational institution.

#### Common Top-Level Domains

- .com** Commercial or business websites, however anyone may use this now
- .gov** United States Government websites
- .mil** United States Military websites
- .org** Organizational websites (often non-profit organizations)

**Directory/Page:** The next part of the URL tells the web browser where to find the specific web page on the website. In our example, the “/bookstore/” tells us that the web page we are looking for lives in the directory/folder entitled “bookstore.” The next part, “index.html,” is the name of the actual web page. The “.html” refers to the programming language used to create the page (in this case, HyperText Markup Language or HTML).

Knowing the URL of a web page is the fastest way to find the page you want to visit. Just type the URL into the address bar of your web browser, hit the Enter key, and you’re off to that web page. However, if you don’t know the URL, there are two other popular tools that can help you find the information you need.

A **Search Engine** is a website that searches the World Wide Web for specific keywords, which you enter into a search field. The search engine then displays a list of web pages that are somehow related to the keywords you entered. You can then click the links to any of these web pages that interest you. Search results are not perfect. You may be looking for a specific website that does not appear right away. Most search engines have advanced options that allow you to narrow your search. For example, you may want to find information about jaguars (the animal not the automobile). If so, you could use the advanced features of your chosen search engine to exclude search results that include the words “car” and “automobile.” Each search engine does this differently. So, you will have to explore the website of your selected search engine for more.

Google ([www.google.com](http://www.google.com)) and Yahoo! ([www.yahoo.com](http://www.yahoo.com)) are two popular search engines.

A **Subject Directory** is a listing of websites organized by topic. As mentioned earlier, not every web page that comes up in your search results may have the most relevant or the most reliable information related to your topic. Subject directories are usually more selective in what they include than are search engines. To use a subject directory, select a main subject from the directory, which then displays subdirectories or folders. Continue to drill down, narrowing your topic, until you find a web page that interests you. Some search engines include subject directories in their list of features and some academic and professional websites include subject directories related to their specific areas of interest.

In summary, there are three basic ways to begin to surf the web:

1. **Enter the URL of a website you want to visit**
2. **Use a Search Engine**
3. **Find your topic in a Subject Directory**

## Internet Communication

**Email** is an extremely popular means of communication. In fact, it has become so integrated with the flow of our work and personal lives that it may be difficult to remember a time when we could not communicate this way. However, there are also many other ways to communicate via the Internet. We're going to describe some of them, now, but we encourage you to find out more about each of these options on your own and consider how they might be useful to you.

**Instant Messaging (IM) and Chat Rooms:** These tools allow you to communicate with others who are online at the same time as you. The key difference between this and email is that with email there is a delay, as you wait for the other person to receive the email, read it, and reply, whenever they are next online, while with Instant Messaging or Chat Rooms, all participants are online at the same time, interacting "live."

**Podcasts:** Podcasts are audio or video recordings available for download from the Internet. TV shows, newscasts, and instructor lectures are some examples of content that can be delivered via a podcast. While some audio and video recordings are streamed over the Internet, meaning you watch them in your web browser, podcasts are different in that they are *downloaded for offline* listening or viewing. Podcasts can also be subscribed to via RSS feeds. An RSS feed allows your computer to automatically download a new podcast whenever it is created, without your having to visit its website directly.

**Blogs:** A blog (short for "web log") is a public journal posted on the Internet. The word *blog* can be used as both a noun and a verb. You may have a personal *blog* or you may *blog* about your career field. People blog about a wide variety of topics. If you have a hobby or topic which you enjoy, you can probably find any number of blogs related to the subject. One distinguishing characteristic of blogs is that they usually allow readers to post comments responding to the original blogger's post. In this way, large interactive communities can develop around popular blogs.

**Social Networking:** Social networking sites, such as Facebook, LinkedIn, Twitter, Flickr, and YouTube are convenient ways to meet new people, share photos and videos, connect with friends, and more. These are typically easy to use and include free services.

**Voice over Internet Protocol (“Voice over IP” or “VoIP”):** This is a voice-based Internet communication solution that uses a standard Internet connection to place phone calls. *Skype* is an example of a software program that allows you to place calls over the Internet. Skype users can call one another over the Internet for free, while calls from Skype to traditional landline phones may be made for a fee.

### Tips For a Better Internet Experience

While there are great benefits to using the Internet, there are also downsides of which you should be aware that range from simple annoyances to serious risks.

**Spam** refers to unsolicited, junk email. If you use your email at all, chances are good that your email address will eventually be discovered by spammers (those who send junk email) and be added to their mailing lists. The good news is there *are* some ways you can minimize spam.

1. **Create a free webmail account.** Webmail or “web email” refers to an email account accessed through a website. Keep this secondary webmail account separate from your primary email account and have it forward to your primary account. Use this secondary webmail account whenever you fill out forms on the web or perform similar tasks, rather than your primary email account. If the webmail account gets overwhelmed with spam, you can always create another one and delete the old one. Just be sure to update your email address on any important websites you use, before you delete the old one. Gmail, Google’s free webmail service, is one popular option for creating a webmail account.
2. A **spam filter** is a feature provided by most computer-based email programs and webmail service providers. Spam filters identify junk emails and move them automatically to a separate folder for you to examine or delete later. This keeps them from cluttering your Inbox. Be sure to check your spam or junk email folder regularly to make sure a legitimate email hasn’t been placed there by mistake.
3. Do **not** reply to spam emails, even just to request that they remove you from their mailing list. Doing so confirms to the spammer that your email address is valid and ensures they will continue to use it and, likely, sell it to other spammers, resulting in more spam.

**Identity Theft and Online Predators:** Providing too much personal information on social networking sites, in chat rooms, or in emails can cause you problems. Some criminals collect personal information and use it to “steal” a person’s identity, accessing their bank accounts, setting up credit card accounts, and worse. Identity theft can have devastating results. Also, dangerous online predators are known to seek the “real world” addresses of people they encounter online, which can lead to physical assaults. Further, homes have been robbed simply because someone shared on a social networking site that they would be gone on vacation during a specific time. Be wise about what you share online. Remember that

what you share with one person can easily be shared with others and that a person you meet online may not be who they say they are.

**Phishing** is another way criminals can attempt to get your personal information. Phishers send spam emails that *appear* to be from legitimate companies, such as banks, online stores, and the like. They usually ask you to verify your account information, such as your user name, password, social security number, credit card number, or other items. If you receive such emails, do **not** reply. No legitimate bank or store will ever ask you to supply your account information over email. Remember, the legitimate company would already have your information. Beware of web pages that *look* like well-known online companies, as well. This is another way phishers can trick unsuspecting web surfers. Be sure the URL is correct, before you attempt to log into your online accounts.

**Shopping Online:** Before you enter personal information on a website, be sure the site is secure. Look at the URL in your web browser's address bar. You should see "https" at the beginning of the URL. The "s" refers to "secure." Secure pages make it more difficult for hackers to intercept your information as it is submitted to the website.

As you can see, there is a lot to learn about using the Internet and we've only just scratched the surface. Learning to use the Internet effectively can prove to be a great advantage to you, both personally and professionally.