

LESSON 1: GETTING STARTED WITH THE INTERNET

In this section, you will learn how to:

- Understand the concept of the internet and its role in modern life.
- Connect to the internet using various methods (e.g., Wi-Fi, Ethernet, mobile data).
- Identify common web browsers and their primary functions.
- Efficiently start and close web browsers.
- Recognize the components of a web address (URL).
- Utilize essential browser features to enhance online experiences.

1.1. Introduction to the Internet

The Internet is a world-wide system of interconnected computer networks linking billions of devices. It consists of millions of private, public, academic, business, and government networks, connected by a wide range of electronic, wireless, and optical networking technologies. The Internet is a vast network that connects devices around the world, allowing them to communicate and share information. Think of the internet like a giant library. Just like a library stores millions of books from different authors, countries, and subjects, the internet holds a vast amount of information—websites, files, and data—that can be accessed by anyone, anywhere.

In a library, you search for a book by its title or subject, and in the same way, on the internet, you search for websites or information using search engines. Just as the library has many sections (fiction, history, science), the internet has different types of websites—social media, educational resources, news, entertainment—and you can explore them based on your needs. Imagine the librarian who knows where every book is located. So, if you go and say, ‘I want to read about the reign of Museveni’, The librarian knows all the books written on the reign of Museveni and he shows you all those books and then you can pick what you want. And read. The librarian’s work is easy because he has a small book that tells him which shelf has which book. In this example, the library is the internet and the books are different websites, social media sites etc. The librarian is the search engine like Google. We shall discuss the search engine in details in later sections.

The terms "Internet" and "World Wide Web" (or simply "the Web") are often used interchangeably. However, the Internet is much broader. The Web is just one part of the Internet, consisting of interlinked websites and online applications. Beyond the Web, the Internet also enables other services such as email (like Gmail), instant messaging (such as WhatsApp or Telegram), and telephony (voice or video calls through apps like Skype or Zoom).

1.2. Connecting to the Internet

All modern computers, laptops, tablets, and smartphones can connect to the Internet. **Think of connecting to the internet like choosing different roads to get to a market.** There are different ways to connect, depending on where you are and what’s available. Here are the most common ways:

- **Dial-Up (Phone Line Connection):** This is like using a phone to connect to the Internet. It's an old method that was slower.

- **Broadband (Cable or DSL) and Fiber:** This is the faster internet connectivity. Think of it like using a smooth, fast highway. Broadband and fiber give you faster internet speeds, so you can download videos or browse quickly. Fiber is even faster because it uses light signals.
- **Satellite Connection:** This is good for people who live in faraway places where cables aren't available. If you know the TV that works without antennas, it's like how such TV signals are sent from space to your satellite dish.
- **Wi-Fi (Hotspots and WiMAX):** Wi-Fi lets you connect wirelessly, like a radio. You can find public Wi-Fi in places like cafes or schools, where you don't need any cables to connect.

You usually connect to the Internet through a service called an **Internet Service Provider (ISP)**. An ISP is like a shop that sells internet access. Different ISPs offer different plans, just like phone companies offer various bundles. Also note that most phone companies are also internet service providers or ISPs. To choose the right one, here's what you should check:

- **Download and Upload Speeds:** Download speed is how fast you can get things from the Internet (like watching a video or saving that video from the internet to your phone or computer), and upload speed is how fast you can send things (like posting photos or sending other types of files like documents). The faster, the better!
- **Bandwidth:** Bandwidth is like the size of a road. The bigger the road, the more cars can pass. With more bandwidth, more data can be sent at the same time.
- **Cost:** Different packages have different prices. Some may limit how much data you can use, while others give unlimited data.
- **Availability:** Not all ISPs work in every area, especially in rural places. It's important to check which ones are available where you live.
- **Customer Service:** It's important to have good customer support so you can get help when you have problems with your internet connection.

1.3. Web Browsing and Navigation

Browsing the internet mainly works through URLs and links. URLs are important because they act like addresses, telling your browser exactly where to go to find a website or web page, document or file. A document, video or music that is on the internet is called a web resource. Without URLs, the browser wouldn't know where to look for the information or web page or video or music you want. URL stands for Uniform Resource Locator. The URL helps you find the exact location of a website on the Internet. A typical URL starts with the protocol (like HTTPS, followed by the name of the website. For example, the URL for IncPart Services is <https://www.incpartservices.com>.

Hyperlinks

A hyperlink is like a shortcut on a webpage. When you click on a hyperlink, it can take you to:

1. A different part of the same web page.
2. A different page on the same website.
3. A completely different website.
4. Download a file (like a document or image).
5. Open an application, play a video, or start a sound.

When you move your mouse over a hyperlink (whether it's a piece of text or a picture), the mouse pointer will change to a hand shape, letting you know it's clickable. Clicking is the process of asking a link to do its work through a button of a mouse. Even though clicking is actually using the mouse, it can also mean pressing enter or space bar on a link if you browse the web using the keyboard only.

Note:

- Hyperlink text is usually blue and underlined, so it's easy to spot.
- If you're using a screen reader, it will tell you whether you have visited a hyperlink before. It will say "visited" for links you've clicked before and just "link" for unvisited links.

1.4. Understanding the Structure of a Web Address

Web servers: Keep in mind that the internet is a system of many connected computers. The computers that store websites and web resources, like YouTube videos, SoundCloud audio files, and all the information you find using a search engine like Google, are called servers.

Servers are computers that stay on and connected to the internet at all times so that anyone can access the files stored on them whenever they need to.

Servers are important because they ensure that information is always available and accessible from anywhere in the world. When you put your files on a server, people can access them through the internet, even if your own computer is turned off. Think of it like baking cakes and delivering them to a supermarket. The supermarket stays open all the time, so anyone, including people who don't know you and where you live, can buy your cakes whenever they want, even if you're at home or asleep. So, when people create information or content that should be put on the internet, they put it on a server. Websites, social media sites like Facebook, Streaming sites like YouTube Every all have servers. So, when you upload your content to YouTube for example, it goes on to the YouTube server. Every computer on the internet including servers and your smartphone or personal, has a unique identification number called an **IP address**. Think of it like a unique number that helps identify a specific device. There are two main types of IP addresses: IPv4 and IPv6. Most of the internet today still uses IPv4. The **IPv4** system uses a set of four numbers separated by dots, like this: **106.29.242.17**. This means you can also access a file on a server using the IP address. While this number helps identify devices, most people don't use IP addresses to visit websites. Instead, we use **domain names**—which are easier to remember. A domain name is a user-friendly name that is linked to the computer's IP address by a system called **DNS (Domain Name System)**. DNS works like a phone book, helping to match a domain name to the correct IP address.

Uniform Resource Locator (URL)

A URL is the full web address that tells the browser exactly where to find a webpage. It's made up of four parts that tell the browser:

1. What rules (or protocol) to follow when transferring the data.
2. The domain name of the website (the name linked to the computer's IP address).
3. The folder or directory on the website's server where the file is stored.
4. The specific file name and type (e.g., HTML, which is a type of web page).

Example URL Breakdown: Let's look at an example:

<https://www.sc.edu/beaufort/library/pages/bones/lesson1.html>

1. **“Https”**: This stands for **Hypertext Transfer Protocol Secure**, which means the data is securely transferred. If it was just **http**, it would be less secure.
2. **“WWW”**: Stands for **World Wide Web**, which refers to the server hosting the website. Some websites don't use this part, and it's optional.
3. **“SC”**: This is the domain name. In this case, it refers to the University of South Carolina.
4. **“.Edu”**: This is the **domain extension**, also called the top-level domain (TLD). It shows that this is an educational institution. Other common extensions include:
 - **.Com** for commercial websites,
 - **.Gov** for government websites,
 - **.Org** for non-profit organizations.
5. **“Beaufort/library/pages/bones”**: These are the folder and sub-folder names where the file is stored on the website's server.
6. **“Lesson1”**: This is the name of the specific file.
7. **“.Html”**: This is the file type, which tells the browser it is a web page written in **HTML** (Hypertext Markup Language).

1.5. THE WORLD WIDE WEB

The World Wide Web (WWW), also called the Web, consists of a worldwide collection of electronic documents that can be access over the internet. Each of these documents on the Web is called a Web page

Web browsers

A Web browser is a type of software that allows you to view Web pages from the internet on your computer or device. But browsers do much more than just display text and images. They can also play multimedia like videos and music, run online applications (like email or games), and even allow you to download files. Browsers enable people to explore the World Wide Web, interact with content, fill out forms, shop online, and much more.

Examples of web browsers

1. Chrome
2. Mozilla Firefox
3. Brave
4. Microsoft edge
5. Opera Mini
6. Apple Safari
7. Netscape

1.6. Search Engines

The **World Wide Web** is a huge space with millions of websites. If you know the web address (URL) of a site, you can easily visit it by typing the URL into the address bar at the

top of your browser. But what if you don't know the URL? This is where **search engines** come in handy.

What is a Search Engine?

A **web search engine** is a tool that helps you find information on the Web. You type in keywords, and the search engine looks for websites that match those words. It then gives you a list of results (called "hits"), usually as links to Web pages.

How Search Engines Work

Search engines store information about many websites. They do this using a special program called a **spider** (also called a web crawler), which visits websites and follows links. The search engine then analyzes the content of each page and stores important words in an index.

The words that search engines store come from:

- Titles of the pages
- The content on the page
- Headings (like <H1> and <H2>)
- Special fields called **meta tags**, which describe the content of the page

Popular Search Engines

Here are some of the most commonly used search engines:

- Google
- Yahoo Search
- Bing
- Baidu
- Ask.com
- Wikipedia

1.7. Effective Internet Searching

Searching the Web effectively means asking the right questions. Otherwise, you may get too many results or not find what you're looking for. Here are some tips:

- **Keywords:** Search engines focus on important words, so avoid using common words like "the," "a," or "which."
- **Use Quotation Marks:** To search for an exact phrase, put the words in quotation marks, like "solar energy benefits."
- **Use + and -:** To include or exclude certain words, you can use "+" or "-". For example, "cake +recipe" or "cake -chocolate."
- **Boolean Operators:** These are special words you can use to combine search terms:
 - **AND:** Finds pages with both terms (e.g., "solar energy AND Karamoja").
 - **OR:** Finds pages with either term (e.g., "global warming OR climate change").
 - **NOT:** Excludes pages with certain terms (e.g., "Apple NOT fruit").

Other Search Techniques

- **Wildcard Operator (*):** This is like a fill-in-the-blank. For example, "best * for kids" will find results like "best books for kids" or "best games for kids."
- **Site Search:** You can use a search engine to look for information on a specific website. For example, "site.Newvision.co.ug education news" will only give results from the New Vision website.
- **Related Sites:** To find similar websites, type "related:" followed by the website. For example, "related.youtube.com" will show you sites like YouTube.

1.8. Advantages and Disadvantages of the Internet

The Internet has many benefits, but it also comes with some challenges. Let's look at both.

Advantages of the Internet

There are many useful things you can do on the Web with a browser, including:

a. Information Searching

You can use the internet to find information on almost any topic. Search engines like Google or Yahoo help you quickly find answers to questions or topics of interest.

b. Entertainment

The internet is full of entertainment options. You can stream videos, play games with people around the world, or listen to music. Almost all forms of entertainment are available online.

c. Communication

The internet makes it easy to connect with others. People use messaging services like WhatsApp, Skype, and video calls to talk with friends and family, no matter where they are, often for free.

d. Shopping – E-Commerce

Online shopping is becoming more popular. You can buy things directly from websites like Amazon, Jumia and Jiji among others. You browse, add items to your cart, and then check out by entering your delivery details and payment information.

e. Learning (E-Learning)

The internet makes learning possible from anywhere. With e-learning, students can attend classes, study at their own pace, and repeat lessons if needed, all from their computer or phone, any time of day.

f. Publishing

The web offers low-cost ways to publish content. You can write and share information on websites, blogs, or even publish books that can be sold online.

g. Online Banking

Banks now offer many services online, such as paying bills or transferring money. This gives people more flexibility, as they are not limited by the bank's opening hours.

h. Government Services (E-Government)

Governments use the internet to offer services, make transactions easier, and provide important information to citizens and businesses online.

Disadvantages of the Internet

a. Spread of Computer Viruses

Viruses can be easily spread through the internet, causing damage to computers and networks.

b. Access to Harmful Content

The internet can provide access to unsuitable material, like pornography, which can be harmful, especially for young people.

c. Theft of Personal Information

Hackers can steal personal information such as your name, address, and credit card details, leading to identity theft or fraud.

d. Spam

Spam refers to unwanted emails sent in bulk, which can clog up your inbox and slow down systems.

e. Internet Addiction

Some people become addicted to the internet, which can lead to problems in their social life and relationships with friends and family.

f. High Initial Cost

The cost of getting connected to the internet can be high, especially if you need to buy a computer or other devices.

g. Lack of Computer Skills

Not everyone knows how to use a computer or the internet, which leaves some people unable to take advantage of online opportunities.

h. Inaccurate Information

There is a lot of false or misleading information online. Since anyone can post on the internet, you have to be careful about what you believe.

1.9. Working with a browser

In this course we shall focus on using google chrome; the following are the steps to open chrome; Regardless of the operating system, screen reader or magnification:

Step 1 press the windows key and type the word “chrome” or ”google”

Step 2. As you complete typing of the first 3 letters of the word “chrome”, or “google” your screen reader will read “google chrome app”

Step 3. Immediately press the enter key to open your google chrome

Step 4. Press either “ALT” plus letter “D” or control plus letter “L” to open the address bar

Step 5. Once focused in the Address Bar, you can input a webpage address or search for a text string and press the enter key to activate. The search results will be displayed in the focused tab.

Step 6. Press “ALT” plus function key 4 to close the browser and on some laptops add the function key (FN) to the keystroke. Alternatively, you can click on the close button on the top right of chrome (the “X” symbol). Or press ALT plus the space bar to activate the system menu, use the down arrow to locate the close button and strike the enter key.

Please note

1. Remember Web page addresses start with HTTPS:// Followed with the domain you’d like to visit such as IncPartservices.com
2. Within Chrome, you don’t need to input the https://. When you input a URL, Chrome assumes you want to use HTTPs.
3. If you want to perform a web search but don’t want to overwrite the data in the focused tab, use the Address Bar to open a web search in a new tab:
4. Focus in the Address Bar
5. Type a search string
6. Press ALT-ENTER
7. The new tab opens and displays the search results.

1.10. The Chrome Display

The Chrome display is simple.

Using a virtual ruler, let’s explore each element:

Slide a ruler to the top of the browser Window. This replicates the title bar. The title bar displays the application name and the name of the focused web page. Read the title bar with NVDA OR JAWS for Windows:

- JAWS/NVDA KEY + letter T

Slide the ruler down one notch to replicate the browser tabs. Each web page you load has a browser tab. Chrome features tabbed browsing.

Beneath the browser tabs is the Chrome Address Bar. Type the web page you’d like to explore into the Address Bar.

Beneath the Address Bar, is the focused web page. When you launch Chrome for the first time, the default web page is loaded. Change the default web page in Chrome settings. We’ll discuss that later.

The Chrome Menu

Chrome features one primary menu. The Chrome Menu button is at the top right of the Address Bar.

Open the Chrome Menu with ALT-F.

Full Screen Mode

Full Screen Mode assists sighted users by altering the display.

Full Screen Mode (F11)

Full Screen Mode removes the title bar and tabs. You can still use Tab navigation, but the Chrome Menu and other features won't function. If you have difficulty accessing elements of the display that normally function, press F11 to disable Full Screen Mode.