

# THE WORLD WIDE WEB, WEB DESIGN

The World Wide Web, abbreviated as WWW or W3, is a worldwide network and system of electronic hypertext document pages formatted in markup or script languages. It was invented by Tim Berners-Lee in 1990. He discovered a way to move to different files on his computer using the links between them. He wrote a coding system to create links to files on any computer connected to the network and also invented the first browser.

## Web page, website, domain name

Web pages and websites consist of different components, for example text, graphics or multimedia features. They also have several design elements such as header, footer, sections, links, navigation bar, sidebars, main content, etc.

A **web page** is a hyperlinked document in a web network system, i.e. it contains links to other documents.

A **website** is an area or place connected to the Internet consisting of several related web pages linked together and accessed by its own unique Internet address which identifies a computer or service in the network.

**IP addresses** are numeric, therefore a naming system called the **Domain Name System** was created with domain names which are easier to remember and meaningful to people. DNS has a hierarchical structure and translates domain names into IP addresses. The domain name is also a part of the URL.

The main or starting page on a website is called **homepage** which contains links to other pages (hyperlinks).

A **hyperlink** means a link in a hypertext document connected to another web page or file which is displayed when clicking on it.

## URL

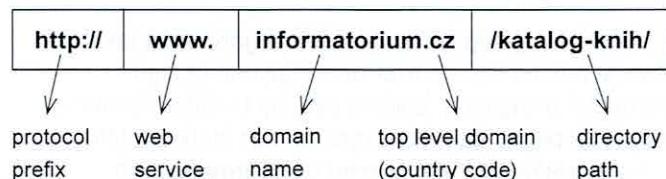
A URL, short for **Uniform Resource Locator**, is the address of a resource that identifies the resource and specifies its location on the Internet. It is informally called a **web address**.

Each web page has its URL. A URL commonly begins with a **protocol**. The protocol prefix `http://` is often hidden. Forward slashes and dots are used to separate subareas and parts of an address. HTTP means HyperText Transfer

Protocol, HTTPS is a protocol for secure communication over a network which is more required.

The main parts are:

- protocol prefix, e.g. `http://`, `https://`, `ftp://`
- web service
- domain name
- top-level domain (TLD) which can be national (country code, e.g. `cz` for the Czech Republic) or generic (types of organizations)
- directories and path where the web page is located
- the document name or the filename, and file extension



## URL structure

There can also be other options, e.g. username, password, fragment, an optional query, etc.

## Types of organizations (generic TLD)

<code>.com</code>	commercial
<code>.edu</code>	educational
<code>.eu</code>	EU domain
<code>.gov</code>	US government
<code>.net</code>	network provider or host
<code>.org</code>	non-profit and other organization

## Web browser, search engine

To find a web page you can enter a URL into a web browser's address bar or address box, or you can use search engine where you type in a keyword. To switch between web pages you can use tabs. Each tab shows a different web page.

A **browser** is a program or software application that allows the user to access and view web pages on the Internet. Widely used web browsers are e.g. Chrome, Firefox, Edge, Internet Explorer, Safari, etc. There are also mobile browsers.

A typical browser window has these features:

- address bar which displays the current webpage address
- toolbar with button icons
- search box or search bar
- settings, tools, etc.

Most buttons of the toolbar are for navigation: *Back* displays the previous webpage, *Forward* displays the next webpage, *Refresh* refreshes the current webpage display, *Home* returns to the first or starting page, *Stop* cancels loading.

A **search engine** is a program which scans the Web for the information you need, using keywords, e.g. Google, Bing, Seznam. It reads keywords written in the search box and searches for web pages, resources and other Internet files. The documents are shown as result pages in a result listing. The web content can also be accessible by voice search (voice commands).

### An overview of common web browsers

Browser	Google Chrome	Microsoft Edge	Mozilla Firefox	Opera	Vivaldi	Apple Safari
Default search engine	Google	Bing	Google, Yahoo	Google	Google	Google, Yahoo, Bing

### Web design

When designing webpages, a designer must take several factors into consideration: layout, design elements, navigation, easy to use, up to date, number of links on a page, etc. Webpages can be static or dynamic.

For creating **static hypertext documents** web designers use markup languages, such as HTML and CSS that use coded instructions called markup tags. **HTML**, short for Hypertext Markup Language, uses a system of pre-defined tags. HTML tags are codes to define text fonts, format paragraphs, add links, etc. They are attached to a piece of a text and surrounded by the angle brackets. Left angle bracket (<) marks the start and right angle bracket (>) marks the end of a tag. E.g. <head>, <title>, <body>, <p>.

For creation of **dynamic web pages** scripting languages are necessary, such as JavaScript, VBScript, PHP, ASP, Python, etc. Scripts are small programs that are embedded in HTML documents.

There is also a large collection of pre-built website templates designers can choose from. They allow anyone to create their own website without needing to design it and converting into code. **Open-source templates** save your time and also money. A web editor is a software program that lets you design web pages without writing HTML codes.

### VOCABULARY

address bar	/ə'dres ba:r/	adresní řádek
browser	/braʊ.zər/	webový prohlížeč
domain name	/də'meɪn ,neɪm/	doménové jméno
domain name system	/də'meɪn ,neɪm ,sɪs.təm/	systém doménových jmen
homepage	/'həʊmpaɪdʒ/	domovská stránka
HTTP	/eɪtʃ.ti.pi:/	hypertextový přenosový protokol
hyperlink	/haɪ.pə.lɪŋk/	hypertextový odkaz
path	/pa:θ/	(adresářová) cesta
result listing	/rɪ'zʌlt ,lɪs.tɪŋ/	výsledný seznam odkazů
search box	/sɜ:tʃ ,boks/	vyhledávací řádek
search engine	/sɜ:tʃ ,en.dʒɪn/	vyhledávač
tag	/tæg/	značka v jazyce HTML
template	/tem.pleɪt/ /templət/	šablona
top-level domain	/tɒp'lev.el də'meɪn/	doména nejvyšší úrovně
Uniform Resource Locator	/ju:nɪ.fɔ:rm ɹɪ:zo:s ləʊ.ker.tər/	jednotné označení zdroje
voice search	/voɪs ,sɜ:tʃ/	hlasové vyhledávání
web address	/web ə'dres/	adresa webové stránky
web design	/web dɪ.zain/	návrh webové stránky
web page, webpage	/web ,peɪdʒ/	webová stránka
website	/web.sait/	webové stránky, webové místo