# Web Technologies

## What Are The Different Types Of Web Technologies?

Since we have a limited space to examine the wide array of web technologies available, we have picked a few that are used most often by both beginners and experts in the industry. We have divided them into the following sections:

1. The basics, which will cover web browsers and some web app development fundamentals
2. Programming languages and frameworks which are used in the development of websites
3. Databases that are used at the backend to store data required or collected by websites
4. Some protocols, that is, rules for communicating on the web
5. Graphic, audiovisual, and other multimedia elements
6. Some data formats that are usually used to transmit data over the internet
7. Other miscellaneous web technologies

## The Basics

In this section, we will talk about web browsers and some other web fundamentals.

### Web Browsers

Web browsers, often just called browsers, make it possible for us to view all the resources that are part of the World Wide Web. They are based on a client-server architecture. The client is the browser in this scenario. You can think of the server as a combination of software and hardware that receives the client's requests and then sends the requested resource to the client.

Whenever you enter a URL into a browser's address bar, it relays your request to the server and then fetches and displays whatever the user requested for.

Some popular web browsers are Opera, Mozilla Firefox, Google Chrome, and Safari.

## Frontend Vs Backend Development Technologies

### What is web development?

Web development refers to the process of creating websites. This process is based on a number of steps, which we will cover in more detail when we explore the tools involved in each process.

### The two parts of a typical website

As we go further, we will discuss individual web development technologies and tools used to create websites. But before that, we need to be clear on the two distinct parts of a website: the frontend and the backend.

Frontend refers to all those parts of a website that a user can see on their screen and interact with.

Backend refers to the exact opposite of that. It involves the hidden mechanisms that make a webpage function. A typical user is generally unaware of what goes on at the backend.

## Security considerations

Web development takes into account many security considerations, such as data entry error checking through forms, filtering output, and encryption. Malicious practices such as SQL injection can be executed by users with ill intent yet with only primitive knowledge of Web development as a whole.

Scripts can be used to exploit Web sites by granting unauthorized access to malicious users that try to collect information such as email addresses, passwords and protected content like credit card numbers.

Some of this is dependent on the server environment on which the scripting language, such as ASP, JSP, PHP, Python, Perl or Ruby is running, and therefore is not necessarily down to the Web developer themselves to maintain. However, stringent testing of Web applications before public release is encouraged to prevent such exploits from occurring. If some contact form is provided on a Web site it should include a captcha field in it which prevents computer programs from automatically filling forms and also mail spamming.

Keeping a Web server safe from intrusion is often called Server Port Hardening. Many technologies come into play to keep information on the Internet safe when it is transmitted from one location to another. For instance TLS certificates (or "SSL certificates") are issued by certificate authorities to help prevent Internet fraud. Many developers often employ different forms of encryption when transmitting and storing sensitive information. A basic understanding of information technology security concerns is often part of a Web developer's knowledge.

Because new security holes are found in Web applications even after testing and launch, security patch updates are frequent for widely used applications. It is often the job of Web developers to keep applications up to date as security patches are released and new security concerns are discovered.