

**Build a Website easily** by [Marc Oscar Schwager](#)

## **Background of this document + what it is**

The Build a Website easily document explains you which steps you can take to create a Website. This is an umbrella document for the following courses : [HTML introduction](#), [CSS introduction](#) and [SEO introduction](#).

This course is a guideline for teachers.

## **Prerequisites**

None, but it is an advantage to know the basic concepts mentioned in the [Computer Crash Course](#).

## **Computer Crash Course (CCC)**

The Computer Crash Course contains a guideline for teachers in basic computer knowledge. It can also be used as an introduction for beginners. You have to follow the mentioned links and read additional information concerning the keywords in the CCC document, otherwise you won't understand this course.

## **Further reading**

### **HTML introduction**

The [HTML introduction](#) gives you an idea how to create HTML pages on a base of examples and a minimum of theoretical background.

### **CSS introduction**

The document [CSS introduction](#) completes the HTML introduction document. The CSS introduction document gives you an idea how to use CSS to design the look (style) of your Web pages (HTML pages).

### **SEO introduction**

The [SEO introduction](#) document describes how to write Web pages search engine friendly with the goal that your Web pages will be indexed and have a high ranking in search engines.

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## Website creation

### Overview

There are different possibilities to create a Website.

- Coding by hand the hardest way
- Using a Content Management System intermediate
- Using a Free Website builder the easiest way

### Coding by hand

**The hardest way** is to code the entire Website "by hand". The so coded Websites gives you the whole control over the behavior of your Website. If you are coding by hand, you will eventually use tools like programming editors, IDEs, task runners and other tools to be more efficient.

Even if you prefer coding by hand, you won't reinvent the wheel. There are helpers like libraries, frameworks and other tools.

Coding means that you use the languages HTML, CSS, JavaScript, PHP, etc. to create your Web pages.

A simple text editor like Notepad or gedit and the knowledge of the language is enough to produce a valid code.

A minimalistic Web page contains code and content.  
The code has the purpose to describe the structure of the Web page.  
The content is what you want to be displayed.

Example : `<h1>My business</h1>`

code	<code>&lt;h1&gt;&lt;/h1&gt;</code>	is an HTML element
content	My business	is your text

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## **Content Management Systems**

### **Intermediate level**

A CMS can be used by non technical people as well as it can be fully configured/modified by professionals.

A Content Management System (CMS) is designed to simplify the publication of Web pages. The CMS allows to create Web pages without requiring technical knowledge of HTML, CSS, or other languages. Content Management Systems have build in WYSIWYG editors.

**Examples :** [WordPress](#)  
[Joomla!](#)  
[Drupal](#)  
[TYPO3](#)

[www.whitehouse.gov](http://www.whitehouse.gov) was built with Drupal

## **Free Website builder**

### **The easiest way**

free Website builders and WYSIWYG editors (see below) can be used by non technical people.

With free Website building offers, you can create your Website in minutes, without technical knowledge! First you get your ID and password, then you can build the Web pages with the assistance of a so called Website builder. You can add text, photos, links, etc. to your Web pages.

**Examples :** [Webs](#)  
[Web.com](#)  
[weebly](#)  
[wix](#)  
[Google Sites](#)

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## **WYSIWYG editors**

Means **What You See Is What You Get**. WYSIWYG editors are also called Web authoring software. These editors attempt to display the Web page as it will show on the browser. They are visual editors and you don't manipulate the code directly.

If you choose for example to put a table on your Web page, you define only the number of rows and columns and the table style. The tool will then generate the HTML and CSS code for you.

Modern WYSIWYG editors have extended functions such as FTP and others.  
WYSIWYG editors are integrated in Content Management Systems.

**Examples :** [NetObjects Fusion](#)  
[Adobe Dreamweaver](#)  
[KomoZer](#)  
[SeaMonkey](#)

## Website toolbox

### Programming editors

Programming editors, also known as source code editors, are text editors that are specifically designed for programmers or developers for writing the source code of an application. Most of these editors are built with useful features, which may include color syntax highlighting, auto indentation, auto complete, bracket matching, syntax check, etc.

Examples : [Bluefish](#) , [Notepad++](#)

### Libraries

Libraries are pre-built code blocks you can use in your program. You don't have to code everything by hand, so you can use libraries!

Examples : [jQuery](#) for JavaScript  
[Eden](#) for PHP  
[YUI](#) for CSS, JavaScript

### Frameworks

Web application frameworks normally gather multiple libraries as well as best practices and a set of guidelines of how to develop Websites. They are a special case of software libraries. Frameworks are reusable abstractions of code wrapped in a well-defined Application Programming Interface (API).

Examples : [Bootstrap](#) for HTML, CSS and JavaScript  
[Foundation](#) for HTML, CSS and JavaScript  
[YAML](#) for CSS  
[Mootools](#) for JavaScript  
[AngularJS](#) for JavaScript  
[CakePHP](#) for PHP  
[Symfony](#) for PHP  
[Zend](#) for PHP  
[Django](#) for Python

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## IDE

An integrated development environment (IDE) is a programming environment that has been packaged as an application program, typically consisting of a source code editor, a compiler/interpreter, a debugger and a graphical user interface builder (GUI).

Many people designing Websites today use an IDE for Website development that automates many of the tasks involved.

**Examples :** [Eclipse](#), [Aptana Studio](#)

## Task Runners

A task runner automates repetitive work like :

- Concatenate the small chunks of CSS and JavaScript together
- Minify your CSS and JavaScript to make their file sizes as small as possible
- Optimize your images to reduce their file size without affecting quality
- Use CSS preprocessors like Sass or Less for CSS authoring
- Check the syntax of HTML, CSS and JavaScript
- Upload your Web pages via FTP

**Examples :** [Grunt](#) is a Node.js-based task runner, most commonly used for front end projects.

[Gulp](#) is a lightweight build tool, using Node's stream API to speed up and simplify complex build processes. How to start with [GULP](#).

## CSS preprocessors

A preprocessor adds features to CSS like variables, nesting, functions, etc. This makes large CSS codes more maintainable.

**Examples :** [Sass](#), [Less](#)

## Scaffolding tools

Client side Scaffolding is concerned with generating a starter template for the Web application.

**Examples :** [Slush](#), [Yeoman](#)

## Website basics

### Abstract

It is a good practice to start writing a correct code (HTML, CSS, JavaScript, PHP, etc.). Don't use styling attributes in HTML, use instead CSS (only) for styling purposes. Extra attention should be paid to every detail of your Web pages to make sure they perform optimally and serve their purpose.

### Content

Your Website must have relevant, customer attracting content. Structure the content in a simple and clear manner. If you want a flash page, you must have a HTML page so you can be crawled by search engines properly. If you want to use audio, implement a mute/volume button.

### Navigation

Have a simple and clear navigation. Have a clear indication of where the user is. Implement a sitemap for visitors of your Web page.

### Browser and mobile

Make sure your Web pages will be displayed correctly in all major browsers (Microsoft Edge, Firefox, Safari, Opera, Chrome). Check if the browser displays your Web pages correctly if you zoom in and out. Use also different operating systems to test your pages.

Make sure that the browser detection does not break when a search engine spider comes along. If the spider cannot get in, then your Website will not be indexed!

Implement CSS media queries in order to have mobile friendly Web pages.

### SEO

Use the actual SEO rules to optimize your pages. Get the relevant information from the most popular search engines (Google, Bing, Yahoo...). Have also a look at some sites for SEO rules like [MOZ](#).

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## **Marketing**

The marketing (Web marketing) goal is to attract as much customers as possible. The key is to get your name/business and your Web pages noticed as often as possible and in as many different places as possible ! Do all the necessary to gain a maximum on visibility on SERPS. Make a unique design of your Web pages, this will be YOUR fingerprint on the Internet.

## **Hosting**

### **Abstract**

Hosting means basically to have your Web pages on a Web server (host).

### **Domain Name Registrar**

If you want to have your own Domain Name (or Website name), for example [yourbusiness.com](#), you have to choose a Domain Name Registrar or Registrar. The Registrar is a company which manages the registration of Domain Names.

### **Domain Name Server**

If you type an URL into your Web browser like <http://www.yoursite.com>, the Domain Name Server will point to the Web server / host which stores your Web pages. The Web server will then send the requested Web page to your browser.

The Domain Name Server is a machine which runs "normally" in a data center of a Web server company.

The DNS or Domain Name System is the mechanism (running on a Domain Name Server) which translates the human readable Domain Name of the Website into an machine readable IP address and vice versa.

Example : [yoursite.com](#) can give 64.244.182.89

**Usually, there is one company which offers Domain Name Server AND Web server services. In this case, you have to tell the Registrar the name of your Name Server. The Registrar will then link your Domain Name to your Name Server (while your Name Server will point to your Web space).**

## **Web server**

A Web server is also called : host, file server, Web space.

If you have your own Domain Name (or Website name), you have to put your Web pages on a Web server. Your Web pages will reside then on the Web servers hard disk in your Web space.

A Web server or host is a machine which runs in a data center of a company which is specialized in Web server / hosting services.

### **How to put the local files on a Web server**

- **FTP**  
You can use your local FTP program to upload your Web pages on the Web server if your Web server allows you FTP access.
- **Web interface**  
Some of the Web servers have a Web interface which allows you to upload your Web pages.
- **Tools**  
IDEs, task runners and WYSIWYG editors have a build-in feature which allows you to upload your Web pages.

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## **Integrated Solutions**

The companies which proposes Integrated Solutions offer an "all in one" package :

- Domain Name Registrar  
You can register / buy your Domain Name
- Domain Name Server  
They link your Domain Name to the Domain Name Server
- Web Server  
They link the Domain Name Server to your Web space (on their Web server)

You can add / delete Domain Names, change from basic Web space to a bigger one, you have FTP access to your Web space and so on.

**Prices :**

- Domain Name	about 10 \$ / year	(2015)
- Basic Web server (space/services)	about 50 \$ / year	(2015)

**Examples :** [1&1](#)  
[myhosting](#)

## **Free Web servers**

Free Web servers offer you free space for your Web pages and a so called sub Domain Name. You can upload your pages, mostly via a Web interface and you have a sub Domain Name (Website name) like this : [www.your-Site-Name.8m.com](#) (this is an example from [freeservers](#)).

Free Web servers normally add banners to your Web pages!

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## **Testing**

Testing helps you to have an optimal presentation and functionality of your Web pages! Your Web pages will be easier indexed by search engines and you will have a better ranking.

## **Locally**

The first and easiest method is to look at all your pages locally and to click on all links.

## **Browser add-ons**

Browser add-ons are integrated tools which help you to test and analyze your Web pages.

**Example :**

- Chrome / Firefox add-on "Web Developer toolbar" from Chris Pederick.
- Firefox add-on [Firebug](#)

## **Code validation**

There are code validators on the Internet for HTML, CSS, JavaScript and others.

**Example :** [XHTML validator](#)

## **Link checker**

A link checker tool checks the internal and the http links on your Web pages.

**Example :** [Link Valet](#)

## **Meta tag checker**

A meta tag checker can check syntax, content, keyword density, etc.

**Example :** [SEO Centro](#)

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## **Browser and mobile**

### **Cross browser local checks**

Download : Firefox, Opera, Chrome and Safari, so you can test your Web page with the five major browsers (including Microsoft Edge).

### **Cross browser Web tools**

[AnyBrowser](#)

[BrowserShots](#)

### **Interaction with search engines**

Make sure that the browser detection does not break when a search engine spider comes along. If the spider cannot get in, then your Website will not be indexed!

### **Browser zoom behavior**

Check the zoom behavior with different browsers on different OS!

### **Mobile**

Is your Website displaying correctly on mobiles?

## **Optimizing**

### **Image sizes**

Check if your images have the optimal size. Scale them to the real size on the Web pages. Then compress them.

### **Page load speed**

Check if the page load speed is less than 3 seconds (depending on an average speed connection). Use the Firefox add-on [Firebug](#) or the [GT metrix](#) online tool to check the page load speed. Remember that to heavy images slow down the page load speed.

### **Miscellaneous**

Minifying HTML, CSS and JavaScript will reduce the Web page file size, this will also increase the page load speed.

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### **Search engines and publicity**

Submit the URL of your Website (example : <http://www.yoursite.com>) to the most popular/important search engines for indexing. Submit to Google, Yahoo, Bing, Open Directory Project.

Don't forget to register your Website on specific directory sites!

Link your Website to your social media accounts/pages and put a back link on them.

### **Making money**

Yees, you can earn money for example by adding publicity on your Web pages. If a visitor clicks on the publicity, you get cash for that.

**Example :** [Google AdSense program](#)

## **Monitoring**

So far so good, if you did all the stuff mentioned above until here, it's perfect. BUT you have to check on a regular basis what's going on. Monitoring and analyzing your Website allows you to optimize Web pages or correct mistakes (yes, nobody is perfect!). This is also a method to get information where to improve and to develop your Website.

## **Search engines ranking and publicity**

Check if you are (still) indexed by the most popular search engines and on the specific directory sites and by your partner sites.

Check also the ranking / popularity of your Website.

## **Tracking methods**

[Google Analytics](#) let you know which pages were mostly visited by people, how many people saw your Website on which day, etc. Google analytics gives you in depth data of what is going on on your Website.

## **Competitors**

Monitor your competitors and the top ranked Websites to see what they are doing. This concerns their design, navigation, content, keyword phrases, etc.

## **Miscellaneous**

Search engines changes their algorithms from time to time, so stay up to date and modify your Website accordingly.

Maybe you want to check if your Web host is reliable by monitoring its uptime.

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## **Further development**

### **Abstract**

Development is an ongoing process after you realized your Website. Data from the monitoring tools are a basis to develop / improve your Website.

### **Increase traffic**

Working constantly on back links will increase your traffic, link popularity and ranking!  
Use the possibilities of Web 2.0 platforms to get linked. For example regular posts on Facebook, blog writing and commenting works very well for that.

Maybe you are increasing your traffic - so you have to adapt your hosting services.

### **Miscellaneous**

Use the **recent HTML standard**. You have to change for example from HTML 4.01 to XHTML or HTML5.

Create and improve **content** on a regular basis (text, video, podcast, blog...)

Be active on **social medias** on a regular basis (posts, social bookmarking...)

## Checklist before starting a Website

It is necessary to get clear about the following :

### Goal and costs

#### Design and creation

Number of pages

Definition and structure of the content like :

Text, photos, links, logos, animations, audio, video, effects, blog, forum, social network integration

Implementation of an appropriate navigation, browser and mobile, SEO and marketing strategy.

How do you want to implement the Web pages ?

### Hosting and Domain Name

Do you want a free hosting service (with publicity) or a paying hosting service (without publicity) ?

Define your domain-name.

You have also to look for a Registrar in order to get your personal Domain Name.

### Testing and optimizing

Do you want to do this yourself, or do you prefer outsourcing ?

### Search engines and publicity

Search engine submission

URL's of partner Websites

Links from/to social media sites

### Making money

What marketing strategy is efficient for your business ?

### Monitoring

Activating of tracking tools (GWT, Analytics)

Activation of uptime monitoring

### Further development

Who will make necessary changes afterwards ?

## Checklist Website creation steps

### Design and creation

- Number of pages
- General layout
- Integration of : text, photos, links, logos, animations, audio, video, effects, blog, forum, social network, etc.
- Definition of subdirectories
- Navigation, browser issues, SEO, marketing

### Local implementation

- Subdirectories
- Pages
- Local test

### Hosting and Domain Name

- Selection of a Web server (Host) and a Registrar for your Domain Name

### Host

- Create subdirectories and upload the files
- Activate the tracking tools
- Activate uptime monitoring

### Testing

- All functionalities "by hand" (layout, links...)
- Validation check HTML, CSS, JavaScript, PHP...
- Link check (internal + external links)
- Meta tag check
- Browser and mobile

### Optimizing

- Image size and page load speed

### Search engine and publicity

- Search engine registration and registration or links on other relevant sites (partner, social media...)

### **Monitoring and further development**

- Check the search engine indexing, ranking and the link popularity
- Check if you are indexed at your partner Websites
- Check the tracking tools
- Check the Website uptime
- Stay up do date and modify your Website accordingly

- Increase traffic
- Create and improve content
- Be active on social medias