



Development of a dynamic web site (DWD)

Class 01

Developing a custom WordPress theme

As you already know, and although many people prefer Drupal, Joomla or a customs solution, WordPress is most probably the most popular CMS system in use nowadays.

A CMS (content management system) consists a publishing platform allowing its user to write and publish contents, organize layout and manage a web site without having to be a web developer.

Create the basics of a custom WordPress theme

In order to create a WordPress theme, WordPress must first be installed. Since it is based on PHP, you will have to work online or on a virtual server such as MAMP or WAMP. As usual, the best advice is to work locally and to transfer the site on server when it is finished and tested.

Step 1 : Download WordPress

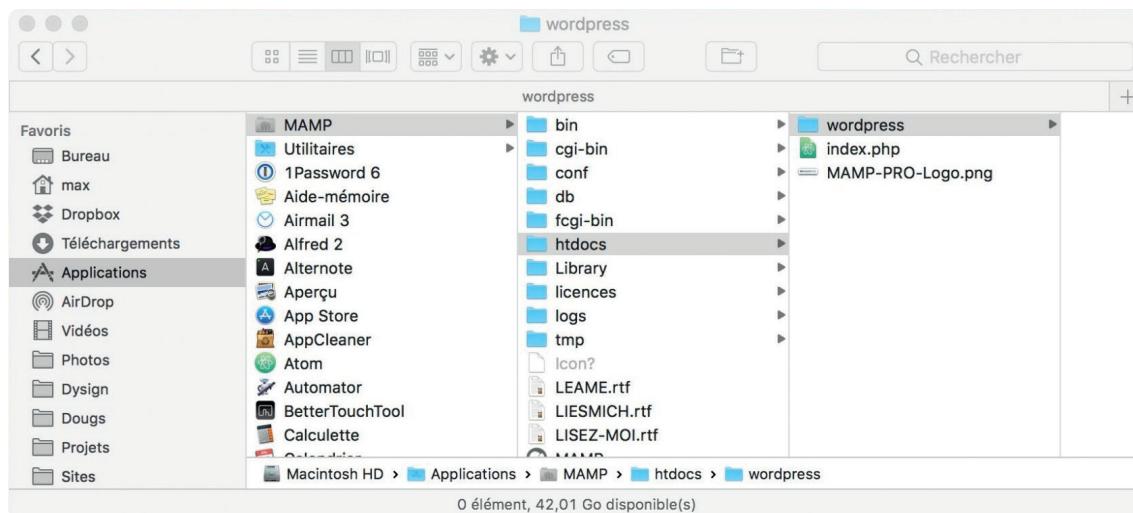
There are two WordPress URL available. WordPress.com is a blogging platform intended for general public. The one we are interested in is wordpress.org, be careful not to confuse them.

Download and save the installation application from this URL : <https://wordpress.org/download/>.



Step 2 : Copy the installation file onto the virtual server

Move or copy the file downloaded to the proper folder of the virtual server. For instance, on MAMP, it would be *htdocs* folder. Once that is done, rename the folder named *wordpress*. Use your projects name to replace the default one.



Step 3: Create a database

Using phpMyAdmin (if you are using MAMP), create a new database. To avoid confusion, it is a good idea to use your project's name to name your database.

The screenshot shows the phpMyAdmin interface with the following details:

- Left sidebar:** Shows databases: New, information_schema, mysql, performance_schema, test.
- Top menu:** Databases, SQL, Status, Users, Export, Import, Settings, Replication.
- Main area:**
 - Create database:** Employee, utf8_unicode_ci, Create button.
 - Note:** Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server.
 - Database list:** information_schema (utf8_general_ci), mysql (utf8_general_ci), performance_schema (utf8_general_ci), test (latin1_swedish_ci). Total: 4.
 - Actions:** Check All, With selected: Drop, Enable Statistics.

Step 4: Install WordPress

Launch the installation application and follow the instructions :

Database informations:

You will be asked different informations :

- Database's name
- MySQL user name and password
- Database's address (localhost on MAMP)
- Table prefix to be used

The screenshot shows the WordPress setup screen with the following fields:

- Database Name:** wordpress
- Username:** (empty)
- Password:** (empty)
- Your database username:** (empty)

Below the fields, there is a note: "Below you should enter your database connection details. If you're not sure about these, contact your host."

Creation of the admin account:

- Web site's title
- User name and password
- Admin's email address
- Search engine visibility options

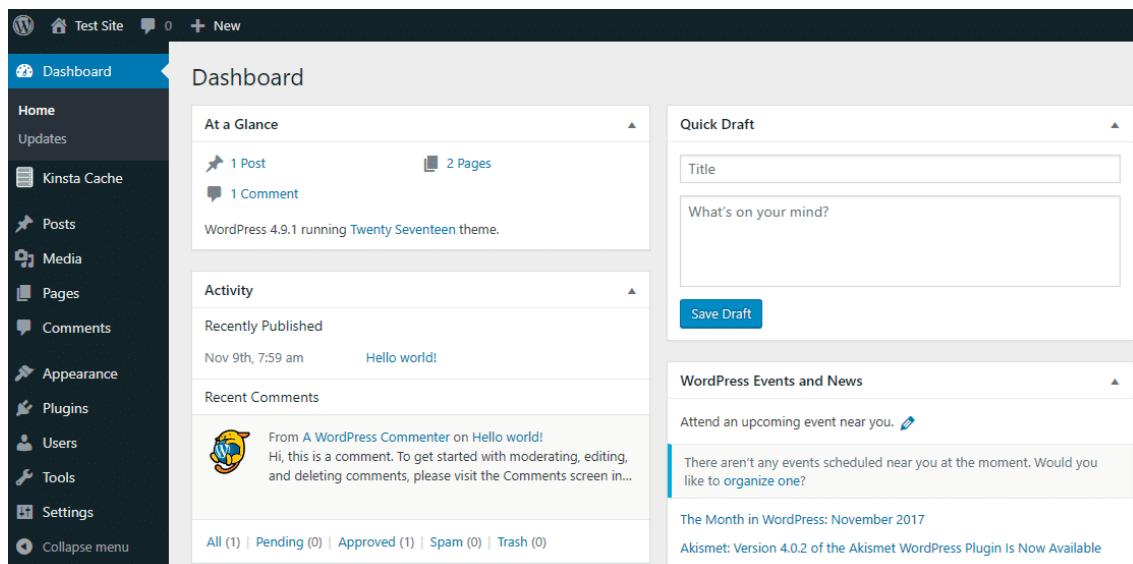
The administrator's dashboard

Connecting in admin mode

From MAMP's MyWebSites tab, select your web site. Once that's done, simply add « wp-admin » in the address bar, at the end of the URL.

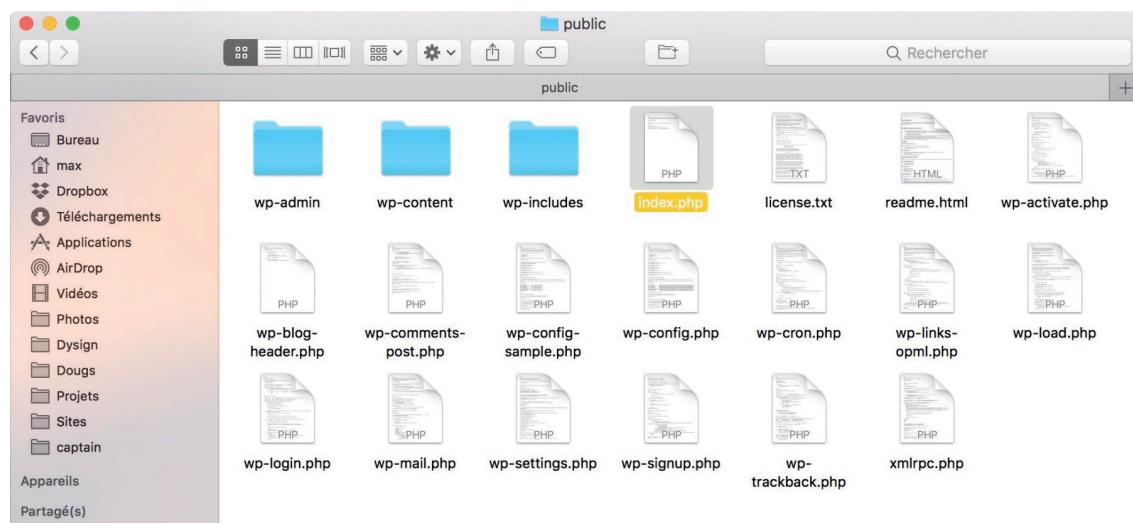
`http://localhost/myProject/wp-admin`

MAC users :
`http://localhost:8888/myProject/wp-admin`



Files and folders structure

In your project's folder, you will see many files and folders. Let's concentrate on : wp-content, wp-includes and wp-admin folders and index.php, wp-config.php, wp-config-sample.php and wp-login.php files.



index.php

Your web site's root file.

wp-config.php

WordPress configuration file containing, among others, the database's credentials.

wp-config-sample.php

Not always present, this file is used as template to create the *wp-config.php* file.

wp-login.php

Makes it possible to connect to the administrator's dashboard interface (*wp-admin*).

wp-includes

This folder contains the very heart of WordPress (most of its functions and features), saved in hundreds of different files : articles management, comments, categories, users, menus, mail system, language management, etc.

wp-admin

Contains everything that has to do with the dashboard. Files such as *options.php*, *profile.php*, *update.php*, *users.php*, *post.php* correspond to one of the dashboard's tabs.

wp-content

This folder's content is much more interesting since this is where we will act. This is actually the only place where it will be possible to change files content. Modifying anything from the two other folder would most probably result in fatal errors.

Themes :

Folder storing the selected theme(s). Only one of the themes can be active.

Plugins :

Storing installed plugins. Plugin may be installed by saving the plugin to this folder, or using the dashboard's *Plugins* tab.

Uploads :

Storing medias imported from the dashboard (images, videos, etc.) as well as versions produced by the CMS at the moment of importing the file.

MU-plugins :

Must Use Plugins are mandatory and are automatically be executed every time WordPress is launched. These are not visible from the dashboard.

Upgrade (not showing on a brand new installation) :

Temporary folder used by WordPress to download upgrades before installing them.

Languages:

This folder stores the different interfaces, themes and plugins languages in use.

Database structure

Table	Action	Rows
my_commentmeta	Browse, Structure, Search, Insert, Empty, Drop	0
my_comments	Browse, Structure, Search, Insert, Empty, Drop	1
my_links	Browse, Structure, Search, Insert, Empty, Drop	0
my_options	Browse, Structure, Search, Insert, Empty, Drop	136
my_postmeta	Browse, Structure, Search, Insert, Empty, Drop	2
my_posts	Browse, Structure, Search, Insert, Empty, Drop	4
my_termmeta	Browse, Structure, Search, Insert, Empty, Drop	0
my_terms	Browse, Structure, Search, Insert, Empty, Drop	1
my_term_relationships	Browse, Structure, Search, Insert, Empty, Drop	1
my_term_taxonomy	Browse, Structure, Search, Insert, Empty, Drop	1
my_usermeta	Browse, Structure, Search, Insert, Empty, Drop	17
my_users	Browse, Structure, Search, Insert, Empty, Drop	1
12 tables	Sum	164

Nota :

In the example above, the prefix that was chosen during installation is here «my_». It is a good idea to choose a custom or even a random prefix to replace the one that is suggested (wp_) in order to prevent SQL injections.

WordPress tables

You will notice that WordPress's database only contains twelve tables by default. These are enough to run the application, but extra plugins can add their own tables (e.g.: WooCommerce or Gravity Form).

wp_users

Stores all and any type of users (user name, encrypted password, email, etc.)

wp_usermetas

Contains additional users information (mainly those that can be customize from the dashboard's USERS/YOUR PROFILE) in a key/value format.

wp_options

Contains all the web site's options including admin preferences (e.g.: web site's title and description, number of posts to show per page, etc.).

wp_posts

Stores all publications (articles, pages, etc.).

wp_postmeta

Stores all additional data from custom fields.

wp_comments et wp_commentmeta

Stores comments and comments metadata.

wp_terms, wp_termmeta, wp_term_taxonomy and wp_term_relationship

These tables concern WordPress's filing methods named taxonomies (*groups of articles based on certain relationships*): *categories* and *labels*. Any extra taxonomy is referred to as a *term* which is part of the two taxonomies.

wp_terms

Contains all taxonomies terms created.

wp_term_taxonomy

Contains the taxonomy of all terms created, the number of posts it corresponds to, the parents and descriptions.

wp_term_relationship

Contain the relationships between terms and taxonomies for better requests results.

wp_termmeta

Contains additional data relative to each taxonomy terms (e.g.: popularity quote for each categories).

wp_links

File used in the past, but now obsolete.