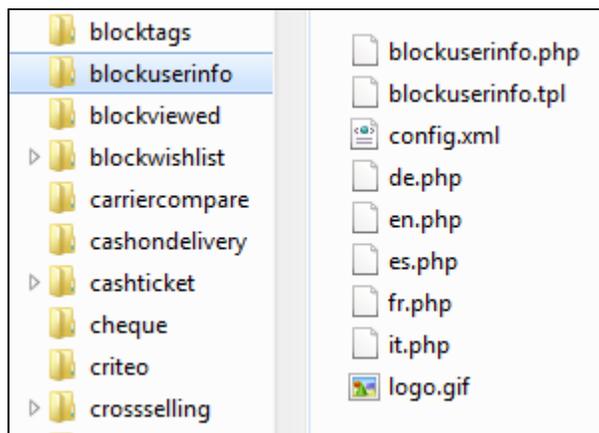# What is a PrestaShop module?

What is a PrestaShop module?

PrestaShop's extensibility revolves around modules, which are small programs that make use of PrestaShop's functionality and changes them or add to them in order to make PrestaShop easier to use or more customized.

Technical principles behind a module

A PrestaShop module consists of a main PHP file with as many other PHP files as needed, and all the images and template (.tpl) files necessary to display the information.

Let's see an example with PrestaShop's **blockuserinfo** module:

Any PrestaShop module, once installed on an online shop, can interact with one or more "hooks". Hooks enable you to hook/attach your code to the current View at the time of the code parsing (i.e., when displaying the cart or the product sheet, when displaying the current stock, etc.). Specifically, a hook is a shortcut to the various methods available from the Module object, as assigned to that hook.

Modules' operating principles

Modules are the ideal way to let your talent and imagination as a developer express themselves, as the creative possibilities are many.

They can display a variety of content (blocks, text, etc.), perform many tasks (batch update, import, export, etc.), interface with other tools, and much much more.

Modules can be made as configurable as necessary; the more configurable it is, the easier it will be to use, and thus will be able to address the need of a wider range of users.

One of the main advantages of a module is to add functionalities to PrestaShop without having to edit its core files, thus making it easier to perform an update of PrestaShop without having the transpose all core changes. Indeed, you should always strive to stay away from core files when building a module, even though this may seem necessary in some situations.

The PrestaShop file structure

The PrestaShop developers have done their best to clearly and intuitively separate the various parts of the software.

Here is how the files are organized:

- /admin (the name is customized on installation): contains all the PrestaShop files pertaining to the back office. When accessing this folder with your browser, you will be asked to provide proper identification, for security reasons.
  Important: you should make sure to protect that folder with a .htaccess or .htpasswd file!
- /cache: contains temporary folders that are generated and re-used in order to alleviate the server's load.
- /classes: contains all the files pertaining to PrestaShop's object model (some are used for the front office, others for the back office). Each file represents (and contains) a PHP class, and its methods/properties.
- /config: contains all of PrestaShop's configuration files. Unless asked to, you should **never** edit them, as they are directly handled by PrestaShop's installer and back office.
- /controllers: contains all the files pertaining to PrestaShop controllers – as in Model-View-Controller (or MVC), the software architecture used by PrestaShop. Each file controls a specific part of PrestaShop.
- /css: contains all the CSS files that are not attached to themes – hence, these are mostly used by the PrestaShop back office.
- /docs: contains some documentation, the licenses, and the sample import files.
  Note: it should be deleted in a production environment.
- /download: contains your virtual products, which can be downloaded by the user who paid for it. Files are stored with a md5 filename.
- /img: contains all of PrestaShop's default images, icons and picture files – that is, those that do not belong to the theme. This is where you can find the pictures for product categories (/c sub-folder), those for the products (/p sub-folder), and those for the back office itself (/admin sub-folder).
- /install: contains all the files related to PrestaShop's installer. You will be required to delete it after installation, in order to increase security.
- /js: contains all JavaScript files that are not attached to themes. Most of them belong to the back office. This is also where you will find the jQuery framework.
- /localization: contains all of PrestaShop's localization files – that is, files that contain local information, such as currency, language, tax rules and tax rule groups, states and the various units in use in the chosen country (i.e., volume in liter, weight in kilograms, etc.).
- /log: contains the log files generated by PrestaShop at various stages, for instance during the installation process.
- /mails: contains all HTML and text files related to e-mails sent by PrestaShop. Each language has its specific folder, where you can manually edit their content if you wish. PrestaShop contains a tool to edit your e-mails, located in the back office, in the Localization > Translation page.
- /modules: contains all of PrestaShop's modules, each in its own folder. If you wish to definitely remove a module, first uninstall it from the back office, then only should you delete its folder.
- /override: this is a special folder that appeared with PrestaShop 1.4. By using PrestaShop's regular folder/filename convention, it is possible to create files that override PrestaShop's default classes or controllers. This enables you to change PrestaShop core behavior without touching to the original files, keeping them safe for the next update.
  NOTE: overrides are not recommended for modules that you intend to distribute/sell, and are strictly forbidden in partner modules. Keep them for your own shop.
- /pdf: contains all the template files (.tpl) pertaining to the PDF file generation (invoice, delivery slips, etc.). Change these files in order to change the look of the PDF files that PrestaShop generates.
- /themes: contains all the currently-installed themes, each in its own folder.
- /tools: contains external tools that were integrated into PrestaShop. For instance, this were you'll find Smarty (template/theme engine), TCPDF (PDF file generator), Swift (mail sender), PEAR XML Parser (PHP tool), etc.
- /translations: contains a sub-folder for each available language. However, if you wish to change the translation, you must do so using the PrestaShop internal tool, and **not** edit them directly in this folder.
- /upload: contains the files that would be uploaded by clients for customizable products (for instance, a picture that a client wants printed on a mug).
- /webservice: contains files that enable third-party applications to access PrestaShop through its API.

Modules folder

PrestaShop's modules are found in the /modules folder, which is at the root of the PrestaShop main folder. This is true for both default modules (provided with PrestaShop) and 3rd-party modules that are subsequently installed.
Modules can also be part of a theme if they are really specific to it. In that case, they would be in the theme's own /modules folder, and therefore under the following path: /themes/[my-theme]/modules

Each module has its own sub-folder inside the /modules folder: /bankwire, /birthdaypresent, etc.

About the cache

The /cache/class_index.php file contains the link between the class and the declaration file. If there is a caching issue, this file can safely be deleted.

The /config/xml folder contains the list of all the base modules:

- `default_country_modules_list.xml`
- `must_have_modules_list.xml`
- `tab_modules_list.xml`

When the store's front-end doesn't quite reflect your changes and emptying the browser's cache is not effective, you should try emptying the following folders:

- `/cache/smarty/cache`
- `/cache/smarty/compile`