PrestaShop Developer Guide

The technical documentation is currently being updated. Some aspects of it might not yet be fully updated. Do not hesitate to contact us if you have any issue with the documentation.

Fundamentals

Concepts

You should be familiar with PHP and Object-Oriented Programming before attempting to write your own module.

PrestaShop was conceived so that third-party modules could easily upon its foundations, making it an extremely customizable e-commerce software.

A module is an addition to PrestaShop that enables any developer to add the following:

- Provide additional functionality to PrestaShop.
- View additional items on the site (product selection, etc..).
- Communicate with other e-commerce players (buying guides, payment platforms, logistics...)
- etc...

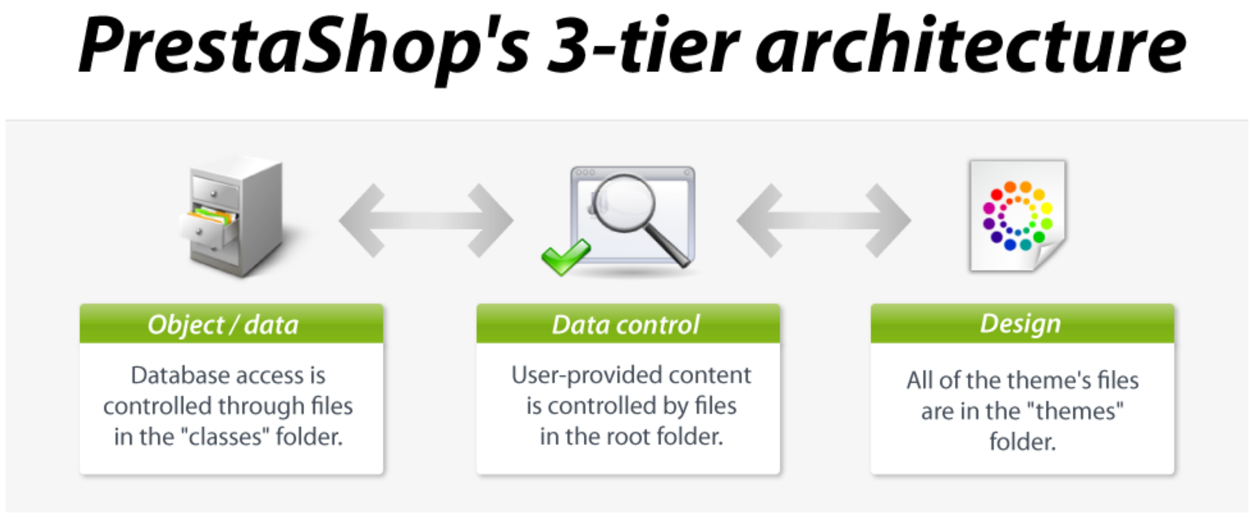
The company behind PrestaShop provides more than 100 modules for free with the tool itself, enabling you to launch your business quickly and for free.

More than 750 add-ons are also available at the official add-ons site. These additional modules were built by the PrestaShop comapny or members of the PrestaShop community, and are sold at affordable prices. As a developer, you can also share your modules on this site, and receive 70% of the amounts associated with the sale of your creations. Sign up now!

PrestaShop's technical architecture

PrestaShop is based on a 3-tier architecture:

- **Object/data**. Database access is controlled through files in the "classes" folder.
- **Data control**. User-provided content is controlled by files in the root folder.
- **Design**. All of the theme's files are in the "themes" folder.


PrestaShop's 3-tier architecture
Object / data
Database access is controlled through files in the "classes" folder.
Data control
User-provided content is controlled by files in the root folder.
Design
All of the theme's files are in the "themes" folder.

This is the same principle as the Model–view–controller (MVC) architecture, only in a simpler and more accessible way.

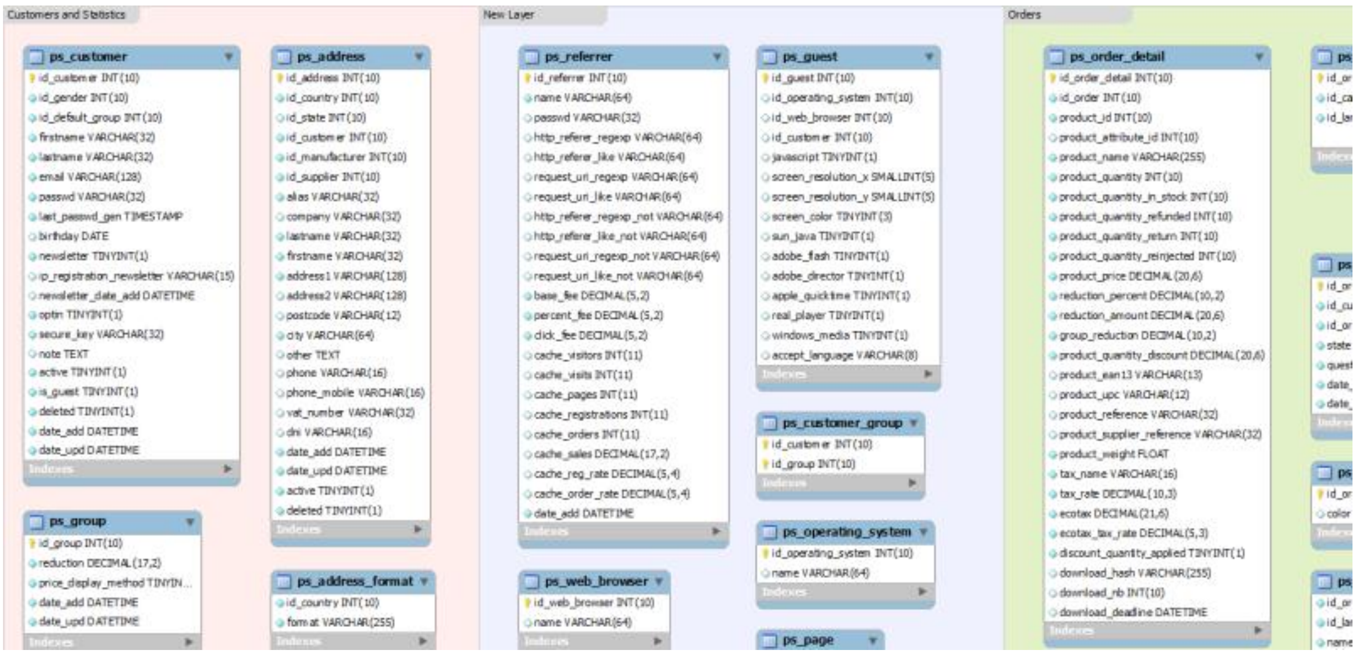
Our developer team chose not to use a PHP framework, such as Zend Framework, Symfony or CakePHP, so as to allow for better readability, and thus faster editing.

This also makes for higher performances, since the software is only made of the lines of code it requires, and does not contain a bunch of supplemental generic libraries.

A 3-tier architecture has many advantages:

- It's easier to read the software's code.
- Developers can add and edit code faster.
- Graphic designer and HTML integrators can work with the confines of the `/themes` folder without having to understand or even read a single line of PHP code.
- Developers can work on additional data and modules that the HTML integrators can make use of.

Database schema



You can download the PrestaShop 1.4 SQL schema in PNG form (1 Mb), or in the original MySQL Workbench file format (you will need MySQL Workbench to view it).

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.

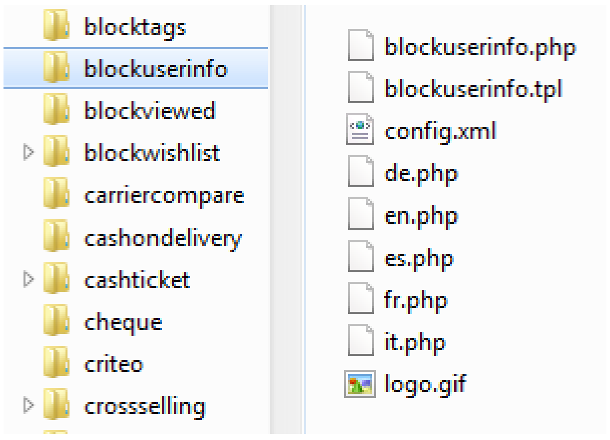
Technical principles behind a module

A PrestaShop module consists of:

- A root folder, named after the module, which will hold all of the module's files, and will reside in PrestaShop's `/modules` folder.
- A main PHP file, named after the module, located in that root folder. This PHP file should have the same name as its root folder.
- An icon file, named `logo.gif`, representing this module.
- Optional: some `.tpl` files, containing the module's theme.
- Optional: language files, if the module or its theme have text to display (and therefore, that should be translatable).
- Optional: in a `/themes/modules` folder, a folder with the same name as the module, containing `.tpl` and language files if necessary. This last folder is essential during modifications of existing module, so that you can adapt it without having to touch its original files. Notably, it

enables you to handle the module's display in various ways, according to the current theme.

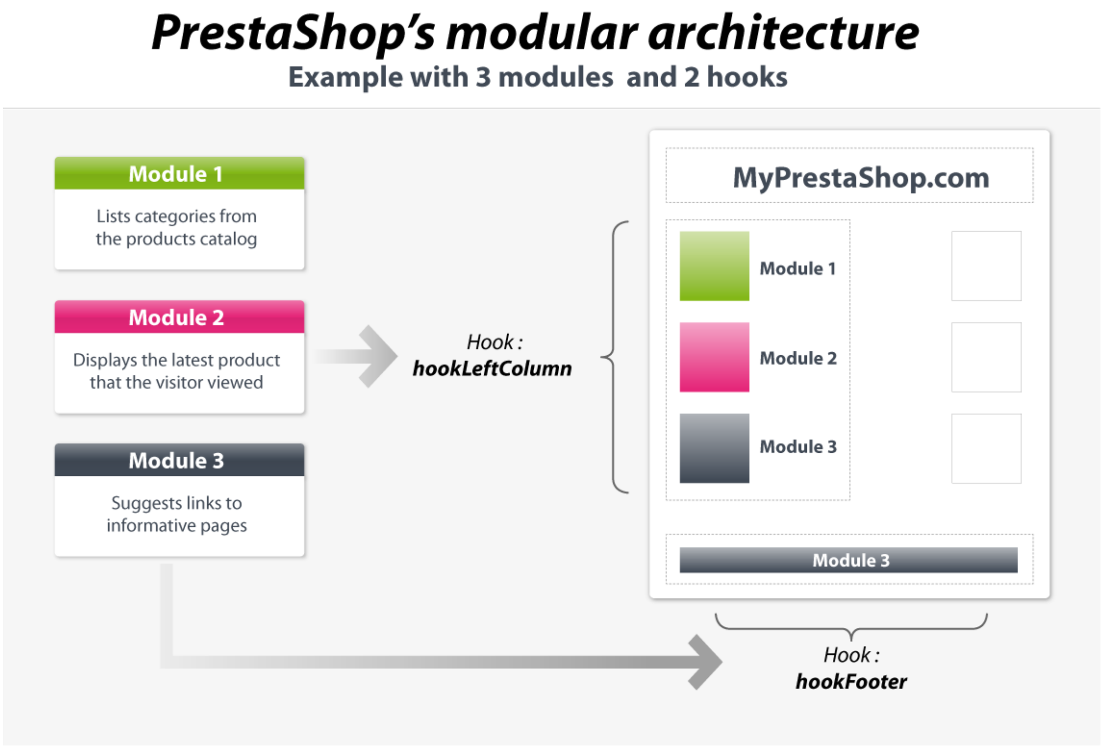
Let's see an example with PrestaShop's **blockuserinfo** module:



Any PrestaShop module, once installed on an online shop, can interact with one or more "hooks". Hooks enable you to "hook" 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...). Specifically, a hook is a shortcut to the various methods available from the Module object, as assigned to that hook.

A list of PrestaShop hooks

Here's a recap of PrestaShop's module architecture:


PrestaShop's modular architecture
Example with 3 modules and 2 hooks
Module 1
Lists categories from the products catalog
Module 2
Displays the latest product that the visitor viewed
Module 3
Suggests links to informative pages
Hook : hookLeftColumn
MyPrestaShop.com
Module 1
Module 2
Module 3
Module 3
Hook : hookFooter

When one of the site's pages is loaded, the PrestaShop engine check which are the modules to call for each of the hooks that make up the page.

Here is a list of 53 hooks, available in PrestaShop.

Front-office

Homepage and general website items

Hook name	File location	Visible	Description
header	header.php	No	Called between the HEAD tags. Ideal location for adding JavaScript and CSS files.
top	header.php	Yes	Called in the page's header.
leftColumn	header.php	Yes	Called when loading the left column.
rightColumn	footer.php	Yes	Called when loading the right column.
footer	footer.php	Yes	Called in the page's footer.
home	index.php	Yes	Called at the center of the homepage.

Product sheet

Hook name	File location	Visible	Description
extraLeft	product.php	Yes	Called right before the "Print" link, under the picture.
extraRight	product.php	Yes	Called right after the block for the "Add to Cart" button.
productActions	product.php	Yes	Called inside the block for the "Add to Cart" button, right after that button.
productOutOfStock	product.php	Yes	Called inside the block for the "Add to Cart" button, right after the "Availability" information.
productfooter	product.php	Yes	Called right before the tabs.
productTab	product.php	Yes	Called in tabs list, such as "More info", "Data sheet", "Accessories"... Ideal location for one more tab, the content of which is handled by the `productTabContent` hook.
productTabContent	product.php	Yes	Called when a tab is clicked.

			Ideal location for the content of a tab that has been defined using the `productTab` hook.

Cart

Hook name	File location	Visible	Description
cart	Class: Cart.php	No	Called right after a cart creation or update.
shoppingCart	order.php	Yes	Called right below the cart items table.
shoppingCartExtra	order.php	Yes	Called after the cart's table of items, right above the navigation buttons.
createAccountTop	authentication.php	Yes	Called within the client account creation form, right above the the "Your personal information" block.
createAccountForm	authentication.php	Yes	Called within the client account creation form, right before the "Register" button.
createAccount	authentication.php	No	Called right after the client account creation.
customerAccount	my-account.php	Yes	Called on the client account homepage, after the list of available links. Ideal location to add a link to this list.
myAccountBlock	Module: blockmyaccount.php	Yes	Called within the "My account" block, in the left column, below the list of available links. Ideal location to add a link to this list.

authentication	authentication.php	No	Called right after the client identification, only if the authentication is valid (e-mail address and password are both OK).

Search

Hook name	File location	Visible	Description
search	Class: Search.php	No	Called after a search is performed. Ideal location to parse and/or handle the search query and results.

Carrier choice

Hook name	File location	Visible	Description
extraCarrier	order.php	Yes	Called after the list of available carriers, during the order process. Ideal location to add a carrier, as added by a module.

Payment

Hook name	File location	Visible	Description
payment	order.php	Yes	Called when needing to build a list of the available payment solutions, during the order process. Ideal location to enable the choice of a payment module that you have developed.
paymentReturn	order-confirmation.php	Yes	Called when the user is sent back to the store after having paid on the 3rd-party website. Ideal location to display a confirmation message or to give some details on the payment.
orderConfirmation	order-confirmation.php	Yes	A duplicate of `paymentReturn`.

backBeforePayment	order.php	No	Called when displaying the list of available payment solutions. Ideal location to redirect the user instead of displaying said list (i.e., 1-click PayPal checkout)..

Merchandise Returns

Hook name	File location	Visible	Description
orderReturn	order-follow.php	No	Called when the customer request to send his merchandise back to the store, and if now error occurs.
PDFInvoice	Class: PDF.php	Yes	Called when displaying the invoice in PDF format. Ideal location to display dynamic or static content within the invoice.

Back-office

General

Hook name	File location	Visible	Description
backOfficeTop	header.inc.php	Yes	Called within the header, above the tabs.
backOfficeHeader	header.inc.php	No	Called between the HEAD tags. Ideal location for adding JavaScript and CSS files.
backOfficeFooter	footer.inc.php	Yes	Called within the page footer, above the "Power By PrestaShop" line.
backOfficeHome	index.php	Yes	Called at the center of the homepage.

Orders and order details

Hook name	File location	Visible	Description
newOrder	Class: PaymentModule.php	No	Called during the new order creation process, right after it has been created.
paymentConfirm	Class: Hook.php	No	Called when an order's status becomes

			"Payment accepted".
updateOrderStatus	Class: OrderHistory.php	No	Called when an order's status is changed, right before it is actually changed.
postUpdateOrderStatus	Class: OrderHistory.php	No	Called when an order's status is changed, right after it is actually changed.
cancelProduct	AdminOrders.php	No	Called when an item is deleted from an order, right after the deletion.
invoice	AdminOrders.php	Yes	Called when the order's details are displayed, above the Client Information block.
adminOrder	AdminOrders.php	Yes	Called when the order's details are displayed, below the Client Information block.
orderSlip	AdminOrders.php	No	Called during the creation of a credit note, right after it has been created.

Products

Hook name	File location	Visible	Description
addproduct	AdminProducts.php	No	Called when a product is created or duplicated, right

			after said creation/duplication.
updateproduct	AdminProducts.php	No	Called when a product is update with a new picture, right after said update.
deleteproduct	Class: Product.php	No	Called when a product is deleted, right before said deletion..
updateQuantity	Class: PaymentModule.php	No	Called during an the validation of an order, the status of which being something other than "canceled" or "Payment error", for each of the order's items.
updateProductAttribute	Class: Product.php	No	Called when a product declination is updated, right after said update.
watermark	AdminProducts.php	No	Called when an image is added to an product, right after said addition.

Statistics

Hook name	File location	Visible	Description
GraphEngine	Class: ModuleGraph.php	Yes	Called when a stats graph is displayed.
GridEngine	Module: GridEngine.php	Yes	Called when the grid of stats is displayed.
AdminStatsModules	AdminStatsTab.php	Yes	Called when the list of stats modules is displayed.

Clients

Hook name	File location	Visible	Description
adminCustomers	AdminCustomers.php	Yes	Called when a client's details are displayed, right after the list of the clients groups the current client belongs

			to.

Carriers

Hook name	File location	Visible	Description
updateCarrier	AdminCarriers.php	No	Called during a carrier's update, right after said update.

Creating a PrestaShop module

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.

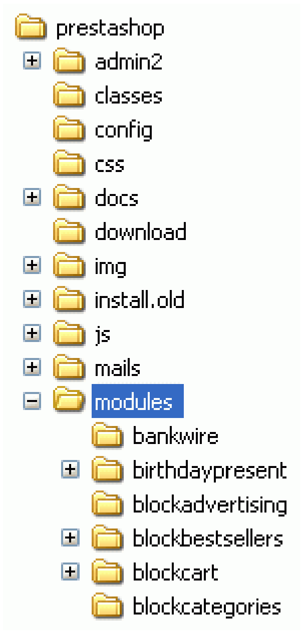
They can display a variety of content (blocks, text, etc.), perform many tasks (batch update, import, export, etc.), interface with other tools...

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 interest of a module is to add functionalities to PrestaShop without having to edit its core files, this making it easier to perform an update without having the transpose all core changes.

That is way you should always strive to stay away from core files when building a module, even though this can prove hard to do in some situations...

Module file tree



All PrestaShop 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.

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

Basic structure of a module

All modules use the same basic structure, which makes it easier to learn by observing existing modules' source code.

Let's create a simple first module; this will enable us to better describe its structure. We'll call it "My module".

Let's first create the module folder. It should have the same name as the module, with no space, only alphanumerical characters, the hyphen and the underscore, all in lowercase: `/mymodule`.

This folder must contain a PHP file of the same name, which will handle most of the processing: `mymodule.php`.

That is enough for a very basic module, but obviously more files and folders can complement it.

The front-office part of the module is defined in a `.tpl` file placed at the root of the module's folder. TPL files can have just about any name. It there's only one such file, it is good practice to give it the same name as the folder and main file: `mymodule.tpl`.

The `mymodule.php` file must start with the following test:

```
if ( !defined( '_PS_VERSION_' ) )
  exit;
```

This checks for the existence of a PHP constant, and if it doesn't exist, it quits. The sole purpose of this is to prevent visitors to load this file directly.

The file must also contain the module's class. PrestaShop uses Object-Oriented programming, and so do its modules.

That class must bear the same name as the module and its folder, in CamelCase: `MyModule`.
Furthermore, that class must extend the `Module` class, and thus inherits all methods and attributes. It can just as well extend any class derived from `Module`: `PaymentModule`, `ModuleGridEngine`, `ModuleGraph`...

mymodule.php

```
<?php
if ( !defined( '_PS_VERSION_' ) )
  exit;

class MyModule extends Module
  {
  public function __construct()
    {
    $this->name = 'mymodule';
    $this->tab = 'Test';
    $this->version = 1.0;
    $this->author = 'Firstname Lastname';
    $this->need_instance = 0;

    parent::__construct();

    $this->displayName = $this->l( 'My module' );
    $this->description = $this->l( 'Description of my module.' );
    }

  public function install()
    {
    if ( parent::install() == false )
      return false;
    return true;
    }
  }
?>
```

Let's examine each line from our `MyModule` object...

```
public function __construct()
```

Defines the class' constructor.

```
$this->name = 'mymodule';
$this->tab = 'Test';
$this->version = 1.0;
$this->author = 'PrestaShop';
```

This section assigns a handful of attributes to the class instance (`this`):

- A 'name' attribute. This is an internal identifier, so make it unique, without special characters or spaces, and keep it lower-case.
- A 'tab' attribute. This is the title for the table that shall contain this module in PrestaShop's back-office modules list. You may use an existing name, such as `Products`, `Blocks` or `Stats`, or a custom, as we did here. In this last case, a new table will be created with your title.
- Version number for the module, displayed in the modules list.
- An 'author' attribute. This is displayed in the PrestaShop modules list.

```
$this->need_instance = 0;
```

The `need_instance` flag indicates whether to load the module's class when displaying the "Modules" page in the back-office. If set at 0, the module will not be loaded, and therefore will spend less resources to generate the page module. If your module needs to display a warning message in the "Modules" page, then you must set this attribute to 1.

```
parent::__construct();
```

Calling the parent's constructor. This must be done before any use of the `$this->l()` method, and after the creation of `$this->name`.

```
$this->displayName = $this->l( 'My module' );
```

Assigning a public name for the module, which will be displayed in the back-office's modules list.
The `l()` method is part of PrestaShop translation's tools, and is explained further below.

```
$this->description = $this->l( 'Description of my module.' );
```

Assigning a public description for the module, which will be displayed in the back-office's modules list.

```
public function install()
  {
  return ( parent::install() );
  }
```

In this first and extremely simplistic incarnation, this method is useless, since all it does is check the value returned by the Module class' install() method. Moreover, if we hadn't created that method, the superclass' method would have been called instead anyway, making the end result identical.
Nevertheless, we must mention this method, because it will be very useful once we have to perform checks and actions during the module's installation process: creating SQL tables, copying files, creation configuration variables, etc.

Likewise, the module should contain an `uninstall()` method, so as to have a custom uninstallation process. This method could look as such:

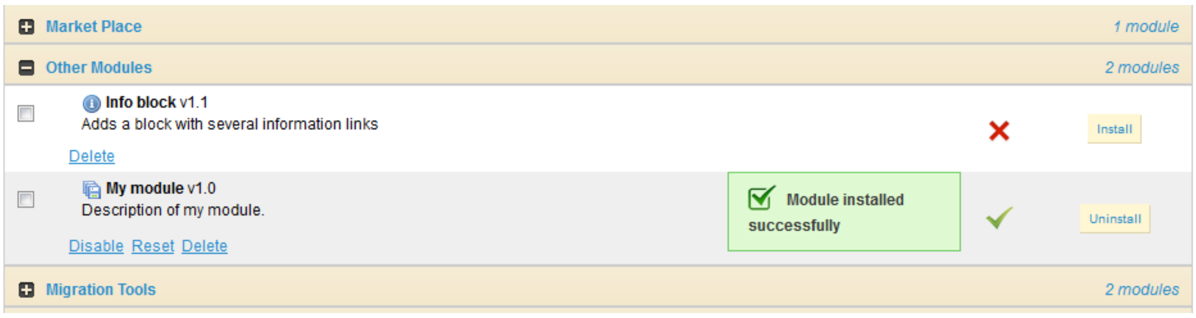
```
public function uninstall()
  {
  if ( !parent::uninstall() )
    Db::getInstance()->Execute( 'DELETE FROM `' . _DB_PREFIX_ . 'mymodule`'
);
  parent::uninstall();
  }
```

To put the finishing touch to this basic module, we can add an icon, which will be displayed next to the module's name in the back-office modules list.
The icon file must respect these requirements:

- 16*16 image.
- named `logo.gif`.
- placed on the module's main folder.

You can find an excellent set of free icons to pick from on the FamFamFam website.

Now that all basics are in place, put the module's folder in the `/modules` folder of your PrestaShop test install, open PrestaShop, and in the "Modules" tab, under "Other Modules", you should find your module. Install it in order to be able to manage it for the rest of this guide.


Market Place 1 module

Other Modules 2 modules

Info block v1.1
Adds a block with several information links

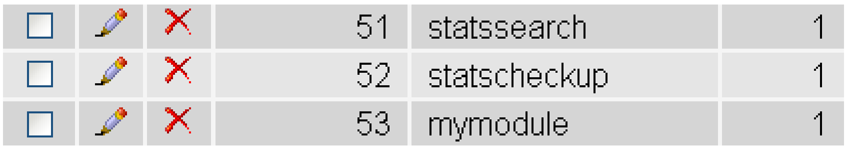
My module v1.0
Description of my module.

Module installed successfully

Migration Tools 2 modules

PrestaShop automatically creates a small `config.xml` file in the module's folder, which stores a few configuration information. You should **NEVER** edit it by hand.

On installation, PrestaShop also adds a line to the `ps_module` SQL table.



☐	✎	✗	51	statssearch	1
☐	✎	✗	52	statscheckup	1
☐	✎	✗	53	mymodule	1

Hooking a module

Displaying data, starting a process at a specific time: in order for a module to be "attached" to a location on the front-office or the back-office, you need to give it access to one of the many PrestaShop hooks, described earlier in this guide.

To that effect, we are going to change your module's code, and add these lines:

mymodule.php (partial)

```
public function install()
  {
  if ( parent::install() == false OR !$this->registerHook( 'leftColumn' ) )
    return false;
  return true;
  }

...

public function hookLeftColumn( $params )
  {
  global $smarty;
  return $this->display( __FILE__, 'mymodule.tpl' );
  }

public function hookRightColumn( $params )
  {
  return $this->hookLeftColumn( $params );
  }
```

Let's explore these new or changed lines.

```
if ( parent::install() == false OR !$this->registerHook( 'leftColumn' ) )
  return false;
return true;
```

We changed the original line to add a second test.

This code checks:

- the boolean value returned by the `Module` class' `install()` method: if `true`, the module is installed and can be used.
- the boolean value returned by `registerHook()` for the `leftColumn` hook: if `true`, the module is indeed registered to the hook it needs, and can be used.

If any of these two boolean values is `false`, `install()` returns `false` too, and the module cannot be installed. Both values have to be `true` for the module to be considered installed.

Therefore, this line now reads this way: if installation or hooking fail, we inform PrestaShop.

```
public function hookLeftColumn( $params )
  {
  global $smarty;
  return $this->display(__FILE__, 'mymodule.tpl');
  }
```

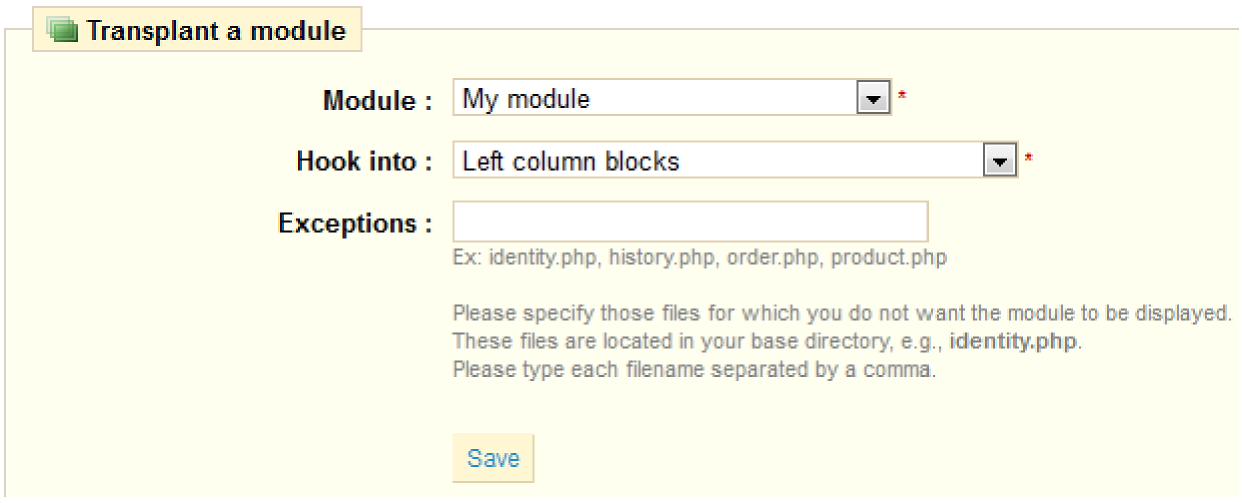
The `hookLeftColumn()` method makes it possible for the module to hook into the theme's left column.
`$smarty` is the global variable for the Smarty template system, which PrestaShop uses, and which we need to access.
The `display()` method returns the content of the `mymodule.tpl` template file, if it exists.

```
public function hookRightColumn( $params )
  {
  return $this->hookLeftColumn( $params );
  }
```

Likewise, `hookRightColumn()` gives access to the theme's right column. In this example, we simply call the `hookLeftColumn()` method, in order to have the very same display, whatever the column.

Save your file, and already you can hook it into the theme, move it around and transplant it: go to the "Positions" sub-tab for the "Modules" tab in the back-office, then click on the "Transplant a module" link.

In the transplantation form, find "My module" in the modules drop-down menu, then choose "Left column blocks" in the "Hook into" drop-down menu.


Transplant a module

Module : My module *

Hook into : Left column blocks *

Exceptions :

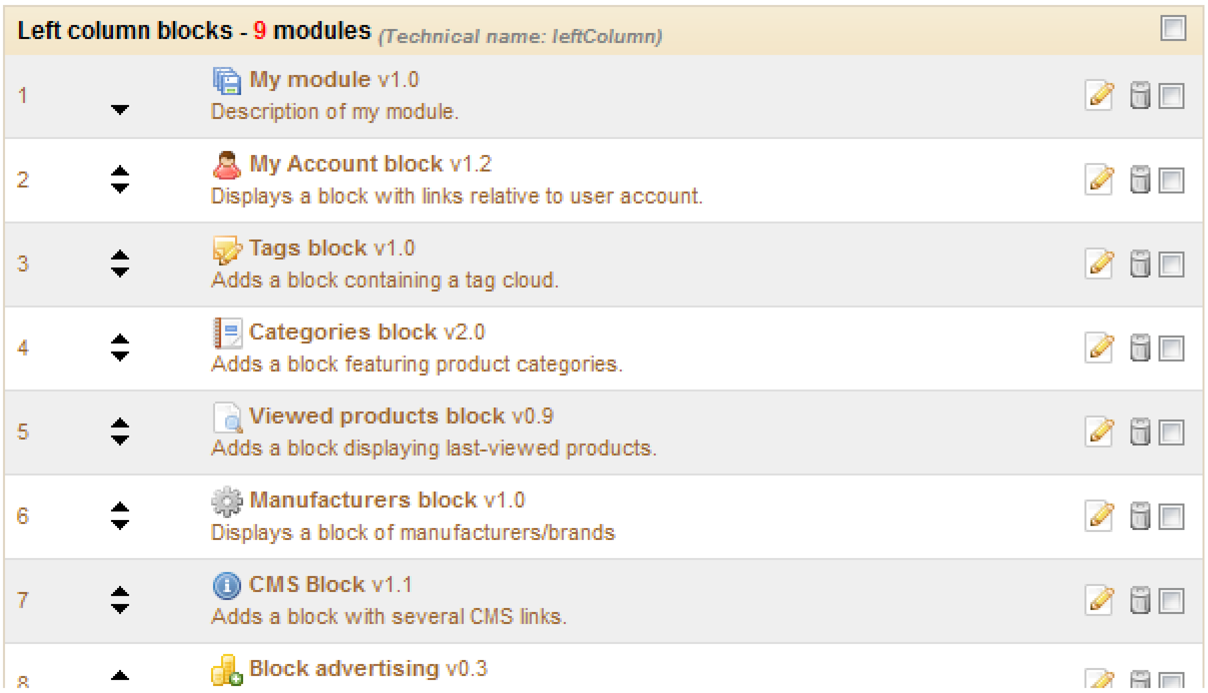
Ex: identity.php, history.php, order.php, product.php

Please specify those files for which you do not want the module to be displayed.
These files are located in your base directory, e.g., **identity.php**.
Please type each filename separated by a comma.

Save

It is useless to try to attach a module to a hook for which it has no implemented method.

Save. The "Positions" page should reload, with the following message: "Module transplanted successfully to hook". Congratulations! Scroll down, and you should indeed see your module among the other modules from the "Left column blocks" list. Move it to the top of the list.


Left column blocks - 9 modules *(Technical name: leftColumn)*

1	**My module** v1.0 Description of my module.
2	**My Account block** v1.2 Displays a block with links relative to user account.
3	**Tags block** v1.0 Adds a block containing a tag cloud.
4	**Categories block** v2.0 Adds a block featuring product categories.
5	**Viewed products block** v0.9 Adds a block displaying last-viewed products.
6	**Manufacturers block** v1.0 Displays a block of manufacturers/brands
7	**CMS Block** v1.1 Adds a block with several CMS links.
8	**Block advertising** v0.3

Displaying content

Now that we have access to the left column, we should display something there.

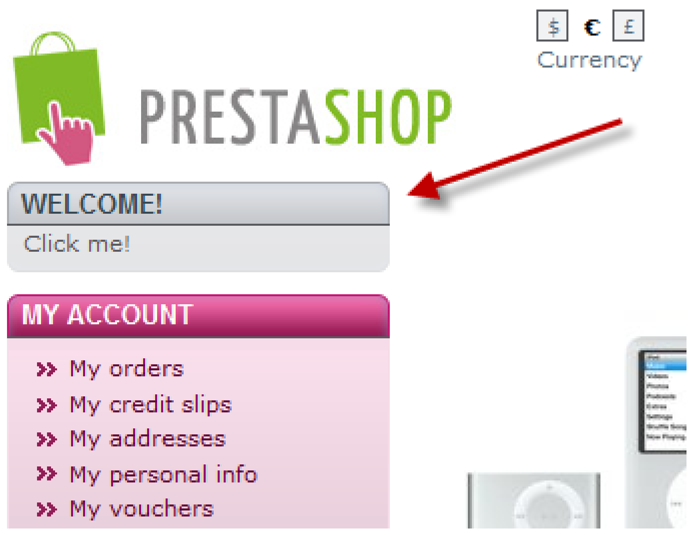
As said earlier, the content to be displayed in the theme should be stored in `.tpl` files. We will create the `mymodule.tpl` file, which was passed as a parameter of the `display()` method in our module's code.

So, let's create the `mymodule.tpl` file, and add some lines of code to it.

mymodule.tpl

```
<!-- Block mymodule -->
<div id="mymodule_block_left" class="block">
  <h4>Welcome!</h4>
  <div class="block_content">
    <ul>
      <li><a href="{$base_dir}modules/mymodule/mymodule_page.php"
title="Click this link">Click me!</a></li>
    </ul>
  </div>
</div>
<!-- /Block mymodule -->
```

Save the file in the module's root folder, reload your shop's homepage: it should appear on top of the left column, right below the shop's logo.



The displayed link doesn't lead anywhere for now. If you need to test it, add the needed `mymodule_page.php` file in the module's folder, with a minimal content, such as "Welcome to my shop!" The resulting page will be very raw, so let's see if we can use the theme's style instead.

As you would expect, we have to create a TPL file in order to use the theme's style. Let's create the `mymodule_page.tpl` file, which will contain the basic line, and call that file from `mymodule_page.php`, which will add the theme's header, footer, etc.

✓ You should strive to use explicit and recognizable names for your TPL files, so that you can find them quickly in the back-office – which is a must when using the translation tool.

mymodule_page.tpl

```
Welcome to my shop!
```

mymodule_page.php

```
<?php
global $smarty;
include( '../../config/config.inc.php' );
include( '../../header.php' );

$smarty->display( dirname(__FILE__) . '/mymodule_page.tpl' );

include( '../../footer.php' );
?>
```

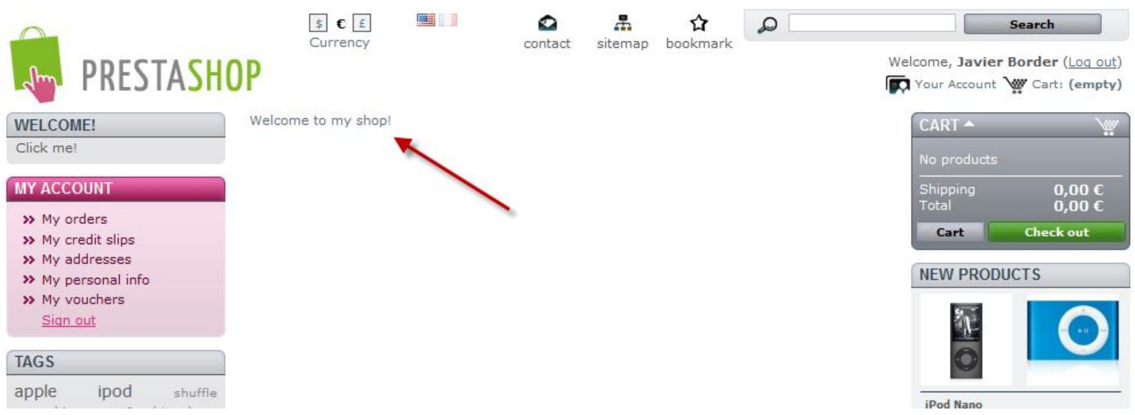
We first load the current Smarty instance. This must be done before any call to the `display()` method.

The various `include()` calls in the file enable us to load:

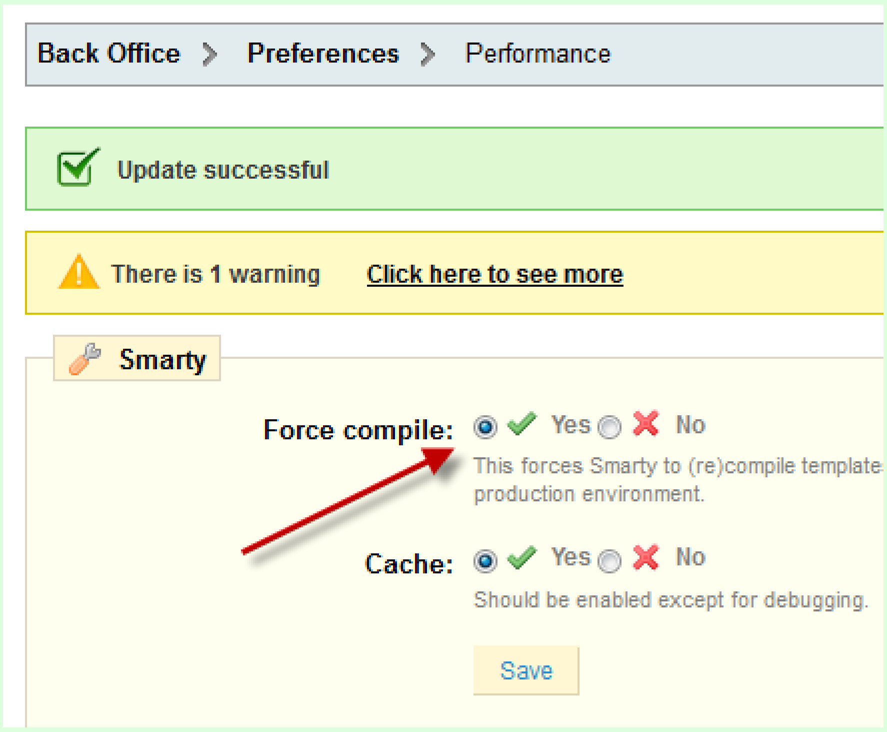
- The current PrestaShop configuration.
- The theme's header file (through `header.php`, which acts as a load file).
- the theme's footer file (through `footer.php`, which acts as a load file).

In the middle of these, we place your custom template file, whose single action will be to display the "Welcome to my shop!" line.

Save all files and reload your shop's homepage: with just a few lines, the end result is so much better, with our "Welcome" line neatly placed between header, footer and columns!



If you make multiple changes and reloads to your homepage, it may seem said changes do not apply. This is because Smarty caches a compiled version of the homepage. In order to force Smarty to recompile templates on every invocation, you must go to "Preferences" tab, its "Performance" sub-tab, and choose "Yes" for the "Force recompile" option.



Back Office > Preferences > Performance

Update successful

There is 1 warning Click here to see more

Smarty

Force compile: [✓ Yes] No
This forces Smarty to (re)compile template
production environment.

Cache: [✓ Yes] No
Should be enabled except for debugging.

Do not force recompilation on production sites, as it severely slows everything down!

Using Smarty

Smarty is a PHP template engine, and is used by PrestaShop's theming system.

It parses TPL files, looking for dynamic elements to replace by their data equivalents, then displays the generated result. Those dynamic elements are indicated with curly brackets : { ... }. The programmer may create new variables and use them in TPL files.

For instance, in our `mymodule_page.php`, we can create such a variable:

mymodule_page.php

```
<?php
global $smarty;

include( '../../config/config.inc.php' );
include( '../../header.php' );
```

```
$mymodule = new MyModule();
$message = $mymodule->l( 'Welcome to my shop!' );
$smarty->assign( 'messageSmarty', $message ); // creation of our variable
$smarty->display( dirname(__FILE__) . '/mymodule_page.tpl' );

include( '../../footer.php' );
?>
```

From there on, we can ask Smarty to display the content of this variable in our TPL file.

mymodule_page.tpl

```
{$messageSmarty}
```

PrestaShop includes a number of variables. For instance, {$HOOK_LEFT_COLUMN} will be replaced with the content for the left column, meaning the content from all the modules that have been attached to the left column's hook.

All Smarty variables are global. You should therefore pay attention not to name your own variable with the name of an existing Smarty variable, in order to avoid overwriting it. It is good practice to avoid overly simple names, such as `products`, and to prefix it with your module's name, or even your own name, such as: {$mark_mymodule_product}.

Here is a list of Smarty variables that are common to all pages:

File / folder	Description
img_ps_dir	URL for the PrestaShop image folder.
img_cat_dir	URL for the categories images folder.
img_lang_dir	URL for the languages images folder.
img_prod_dir	URL for the products images folder.
img_manu_dir	URL for the manufacturers images folder.
img_sup_dir	URL for the suppliers images folder.
img_ship_dir	URL for the carriers (shipping) images folder.
img_dir	URL for the theme's images folder.
css_dir	URL for the theme's CSS folder.
js_dir	URL for the theme's JavaScript folder.
tpl_dir	URL for the current theme's folder.
modules_dir	URL the modules folder.
mail_dir	URL for the mail templates folder.
pic_dir	URL for the pictures upload folder.
lang_iso	ISO code for the current language.
come_from	URL for the visitor's origin.
shop_name	Shop name.
cart_qties	Number of products in the cart.
cart	The cart.

currencies	The various available currencies.
id_currency_cookie	ID of the current currency.
currency	Currency object (currently used currency).
cookie	User cookie.
languages	The various available languages.
logged	Indicates whether the visitor is logged to a customer account.
page_name	Page name.
customerName	Client name (if logged in).
priceDisplay	Price display method (with or without taxes...).
roundMode	Rounding method in use.
use_taxes	Indicates whether taxes are enabled or not.

If you need to have all of the current page's Smarty variables displayed, add the following function:

```
{debug}
```

Comments are based on asterisk:

```
{* This string is commented out *}

{*
This string is too!
*}
```

Unlike with HTML comments, commented-out Smarty code is not present in the final output file.

Module translation

Our module's text strings are written in English, but we might want French shop owners to use our module too. We therefore have to translate those strings into French, both front-office and back-offices ones. This could be a tedious task, but Smarty and PrestaShop's own translation make it far easier.

Strings in PHP files will need to be displayed through the `l()` method, from the `Module.php` abstract class.

mymodule.php (partial)

```
...
$this->displayName = $this->l( 'My module' );
$this->description = $this->l( 'Description of my module.' );
...
```

Strings in TPL files will need to be turned into dynamic content, which Smarty will replace by the translation for the chosen language. In our sample module, this file:

mymodule.tpl (partial)

```
<li>
  <a href="{$base_dir}modules/mymodule/mymodule_page.php" title="Click this
link">Click me!</a>
</li>
```

...becomes:

mymodule.tpl (partial)

```
<li>
  <a href="{$base_dir}modules/mymodule/mymodule_page.php" title="{l
s='Click this link' mod='mymodule'}">{l s='Click me!' mod='mymodule'}</a>
</li>
```

...and this one:

mymodule_page.tpl

```
<h4>Welcome!</h4>
...
Click me!
```

...becomes:

mymodule.tpl

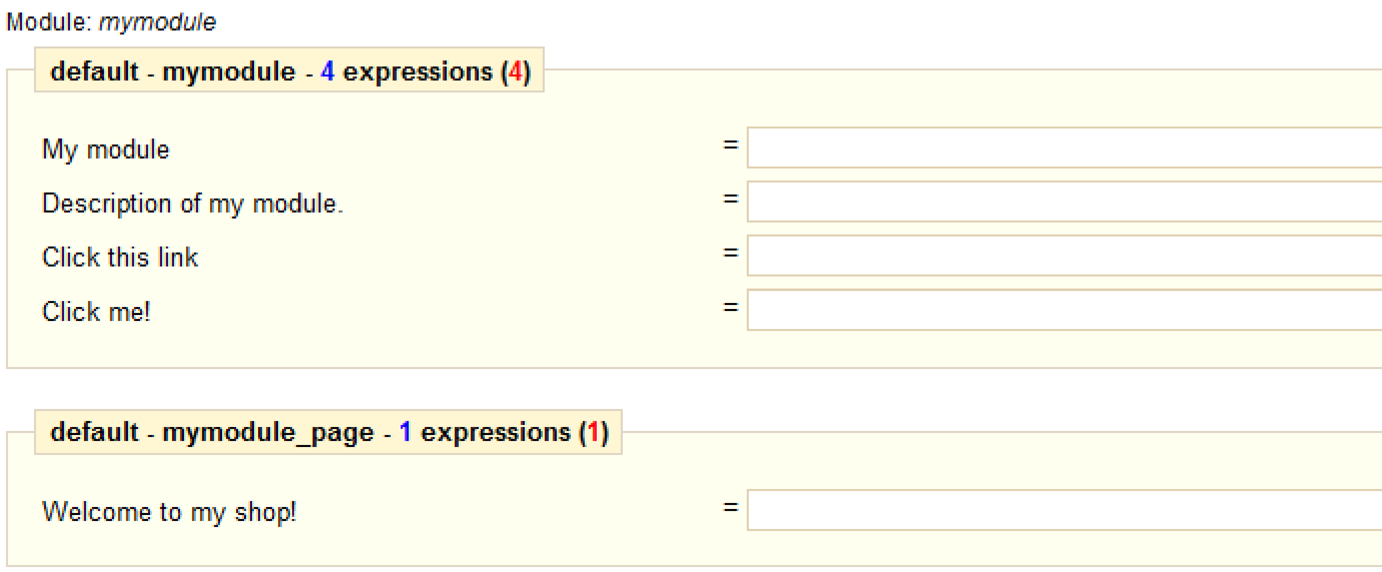
```
<h4>{l s='Welcome!' mod='mymodule'}</h4>
...
{l s='Click me!' mod='mymodule'}
```

The translation tool needs the `mod` parameter in order to match the string to translate with its translation.
Strings are delimited with single quotes. If a string contains single quotes, they should be escaped using a backslash ().

This way, strings can be directly translated inside PrestaShop: go to the "Tools" tab, its "Translations" sub-tab, and in the "Modify translations" drop-down menu, choose "Module translations", then click the French flag in order to translate modules into French.

The next page displays all the strings for all the currently-installed modules. Modules that have all their strings already translated have their fieldset closed, whereas if at least one string is missing in a module's translation, its fieldset is expanded.
In order to translate your module's strings (the ones that were "marked"

using the `l()` method), simply find your module in the list (use the browser's in-page search), and fill the empty fields.


Module: *mymodule*

default - mymodule - 4 expressions (4)

My module	=
Description of my module.	=
Click this link	=
Click me!	=

default - mymodule_page - 1 expressions (1)

Welcome to my shop!	=

Once all strings for your module are correctly translated, click on the "Update translation" button, either at the top or the bottom of the page.

Each field has an icon on its right. This enables you to get an suggestion from Google Translate. You can hover the mouse over it to see the translation, and click it to fill the field with the translation.

Automatic translation are not always accurate; use with caution.

The translations are saved in a new file, `fr.php` (or `languageCode.php`, which is generated by PrestaShop and looks like this:

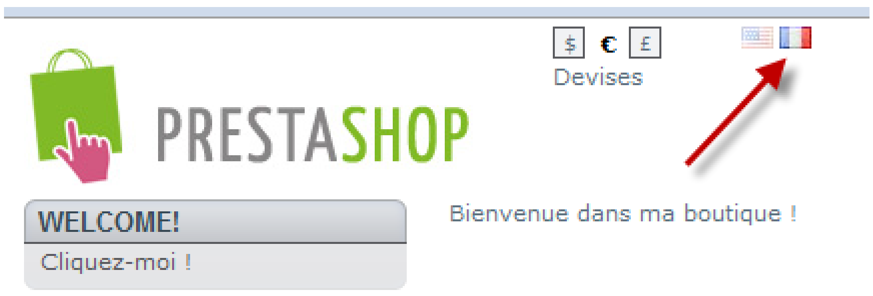
mymodule.tpl

```
<?php

global $_MODULE;
$_MODULE = array();
$_MODULE['<{mymodule}prestashop>mymodule_2ddddc2a736e4128ce1cdfd22b041e7f']
= 'Mon module';
$_MODULE['<{mymodule}prestashop>mymodule_d6968577f69f08c93c209bd8b6b3d4d5']
= 'Description de mon module';
$_MODULE['<{mymodule}prestashop>mymodule_c66b10fbf9cb6526d0f7d7a602a09b75']
= 'Cliquez sur ce lien';
$_MODULE['<{mymodule}prestashop>mymodule_f42c5e677c97b2167e7e6b1e0028ec6d']
= 'Cliquez-moi \!';
$_MODULE['<{mymodule}prestashop>mymodule_page_c0d7cffa0105851272f83d5c1fe63
a1c'] = 'Bienvenue dans ma boutique \!';
```

This file **must not** be edited manually! It can only be edited through the PrestaShop translation tool.

Now that we have a translation, we can click on the French flag in the front-office (provided the language has indeed been installed), and get the expected result: the module's strings are now in French.

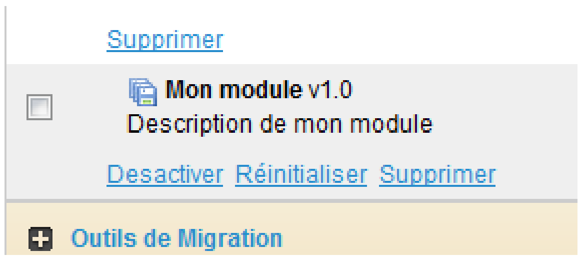


WELCOME!

Cliquez-moi !

Bienvenue dans ma boutique !

They are also translated in French when the back-office is in French.



Mon module v1.0

Description de mon module

✓ The translated strings can only be taken into account by the PrestaShop tool, the PHP and TPL files have to be located at the root of the module's folder.

Creating the module's back-office tab, and its class

In this section you will learn how to give your module its own tab or sub-tab, in a matter of minutes.

Follow these steps:

1. Add a new table to your PrestaShop database, named `ps_test`. Give it two fields:
   - `id_test` (INT 11)
   - `test` (VARCHAR 32)
2. Create a blank file named `Test.php` in PrestaShop's `/classes` folder.
3. Add the following lines to that file:

Test.php

```
<?php
class Test extends ObjectModel
  {
  /** @var string Name */
  public $test;

  protected $fieldsRequired = array( 'test' );
  protected $fieldsSize = array( 'test' => 64 );
  protected $fieldsValidate = array( 'test' => 'isGenericName' );
  protected $table = 'test';
  protected $identifier = 'id_test';

  public function getFields()
    {
    parent::validateFields();
    $fields[ 'test' ] = pSQL( $this->test );
    return $fields;
    }
  }
?>
```

1. Create a blank file named `AdminTest.php` in PrestaShop's `/admin/tabs`.
2. Add the following lines to that file:

AdminTest.php

```
<?php
include_once( PS_ADMIN_DIR . '/../classes/AdminTab.php' );

class AdminTest extends AdminTab
  {
  public function __construct()
    {
    $this->table = 'test';
    $this->className = 'Test';
    $this->lang = false;
    $this->edit = true;
    $this->delete = true;
    $this->fieldsDisplay = array(
      'id_test' => array(
        'title' => $this->l( 'ID' ),
        'align' => 'center',
        'width' => 25 ),
      'test' => array(
        'title' => $this->l( 'Name' ),
        'width' => 200 )
    );

    $this->identifier = 'id_test';

    parent::__construct();
    }

  public function displayForm()
    {
    global $currentIndex;

    $defaultLanguage = intval( Configuration::get( 'PS_LANG_DEFAULT' ) );
    $languages = Language::getLanguages();
    $obj = $this->loadObject( true );

    echo '
      <script type="text/javascript">
        id_language = Number('.$defaultLanguage.');
      </script>';

    echo '
```

```
      <form action="' . $currentIndex . '&submitAdd' .  $this->table .
'=1&token=' . $this->token . '" method="post" class="width3">
        ' . ($obj->id ? '<input type="hidden" name="id_' . $this->table .
'" value="' . $obj->id . '" />' : '').'
        <fieldset><legend><img src="../img/admin/profiles.png" />' . $this-
>l( 'Profiles' ) . '</legend>
          <label>'.$this->l( 'Name:' ).' </label>
          <div class="margin-form">';
    foreach ( $languages as $language )
      echo '
          <div id="name_' . $language['id_lang'|'id_lang'] . '"
style="display: ' . ($language['id_lang'|'id_lang'] == $defaultLanguage ?
'block' : 'none') . '; float: left;">
            <input size="33" type="text" name="name_' .
$language['id_lang'|'id_lang'] . '" value="' . htmlentities( $this-
>getFieldValue( $obj, 'name', intval( $language['id_lang'|'id_lang'] ) ),
ENT_COMPAT, 'UTF-8' ) . '" /><sup>*</sup>
          </div>';
    $this->displayFlags( $languages, $defaultLanguage, 'name', 'name' );
    echo '
          <div class="clear"></div>
        </div>
        <div class="margin-form">
          <input type="submit" value="' . $this->l( ' Save ' ) . '"
name="submitAdd' . $this->table . '" class="button" />
        </div>
        <div class="small"><sup>*</sup> ' . $this->l( 'Required field' ) .
'</div>
      </fieldset>
    </form> ';
    }
  }
?>
```

Put the files online, then create the tab by going to the "Employee" tab, then its "Tabs" sub-tab. Click the "Add new" button, and fill-in the fields with the class' name, "AdminTest". Do not confuse "class" with "modules"! Choose an icon (like one from the FamFamFam pack), choose where the tab should go, and save. You're set! Now start customizing it to your needs!

Troubleshooting

If your module does not work as expected, here are a few ways to find help.

PrestaShop official forum

Join our forum at http://www.prestashop.com/forums/, and search for an answer using the relevant keywords. If your search needs refining, use the advanced search form. And if your search doesn't yield anything useful, create a new thread, where you can be as wordy as necessary when writing your question; you will need to registered first.

Some forums keep certain threads pinned on top of all threads; they contain some useful information, so be sure to read them through.

Our bug-tracker

If it turns out your issue stems from a PrestaShop bug rather than your code, please do submit the issue in the PrestaShop bug-tracker: http://forge.prestashop.com/ (you will need to register). This enables you to discuss the issue directly with the PrestaShop developers.

Official PrestaShop websites

URL	Description
http://www.prestashop.com	Official website for the PrestaShop tool, its community, and the company behind it.
http://addons.prestashop.com	Marketplace for themes and modules
http://www.prestabox.com	Host your shop with us!

PrestaShop Development standard

Summary

PHP

Variable names

1. Corresponding to data from databases: $my_var
2. Corresponding to algorithm: $my_var
3. The visibility of a member variable does not affect its name: private $my_var

Assignments

1. There should be a space between variable and operators:

```

$my_var = 17;
$a = $b;
```

Operators

1. "+", "-", "*", "/", "=" and any combination of them (e.g. "/=") need a space between
   left and right members

```

$a + 17;
$result = $b / 2;
$i += 34;
```

6. "." don't have space between left and right members

```

echo $a.$b;
$c = $d.$this->foo();
```

> **Recommendation**
> For performance reasons, please don't abusing of use of concatenation.

10. ".=" need a space between left and right members

```

 $a .= 'Debug';
```

Statements

1. if, elseif, while, for: presence of a space between the if keyword and the bracket

```

if (<condition>)
while (<condition>)
```

5. When a combination of if and else are used and that they should both return a value, the else has to be avoided.

```

if (<condition>)
  return false;
return true;
```

> **Recommendation**
> We recommend one return per method / function

10. When a method/function returns a boolean and the current method/function return depends on it, the if statement has to be avoided

```
11.
12.  public aFirstMethod()
13.  {
14.          return $this->aSecondMethod();
15.  }
```

16. Tests must be grouped by "entity"

```
17.
18.  if ($price AND !empty($price))
19.          [...]
20.  if (!Validate::$myObject OR $myObject->id === NULL)
21.          [...]
```

Visibility

1. The visibility must be defined everytime, even when it is a public method.
2. The order of the method properties should be: visibility static function name()

```
3.
4. private static function foo()
```

Method / Function names

1. Method and function name always begins with a lowercase character and each following words must begin with an uppercase character (CamelCase)

```
2.
3. public function myExempleMethodWithALotOfWordsInItsName()
```

4. Braces introducing method code have to be preceded by a carriage return

```
5.
6. public function myMethod($arg1, $arg2)
7. {
8.   [...]
9. }
```

10. Method and function names must be explicit, so such function names as "b()" or "ef()" are completly forbidden.

Exceptions
The only exceptions are the translation function called "l()" and debug functions "p()", "d()".

Enumeration

Commas have to be followed (and only followed) by a space.

```
protected function myProtectedMethod($arg1, $arg2, $arg3 = null)
```

Objects / Classes

1. Object name must be singular
2.
3. `class Customer`
4. Class name must follow the CamelCase practice except that the first letter is uppercase
5.
6. `class MyBeautifulClass`

Defines

1. Define names must be written in uppercase
2. Define names have to be prefixed by "PS_" inside the core and module
3.
4. `define('PS_DEBUG', 1);`
5. `define('PS_MODULE_NAME_DEBUG', 1);`
6. Define names does not allow none alphabetical characters. Except "_".

Keywords

All keywords have to be lowercase
e.g. as, case, if, echo, null

Constants

Constants must be uppercase except for "true" and "false" and "null" which must be lowercase
e.g. "ENT_NOQUOTE", "true"

Configuration variables

Configuration variables follow same rules as defines

Strings

Strings have to be surrounded by simple quotes, never double ones

```
echo 'Debug';
$myObj->name = 'Hello '.$name;
```

Comments

1. Inside functions and methods, only the "//" comment tag is allowed
2. After the "//" comment tag, a space "// Comment" is required
3.
4. `// My great comment`
5. The "//" comment tag is tolerated at the end of a code line
6.

```
7. $a = 17 + 23; // A comment inside my exemple function
```

8. Outside funcions and methods, only the "/**" and "**/" comment tags are allowed

```
9.
10.  /* This method is required for compatibility issues */
11.  public function foo()
12.  {
13.  // Some code explanation right here
14.  [...]
15.  }
```

16. PHP Doc Element comment is required before the method declarations

```
17.
18.  /**
19.    * Return field value if possible (both classical and multilingual
   fields)
20.    *
21.    * Case 1 : Return value if present in $_POST / $_GET
22.    * Case 2 : Return object value
23.    *
24.    * @param object $obj Object
25.    * @param string $key Field name
26.    * @param integer $id_lang Language id (optional)
27.    * @return string
28.    */
29.  protected function getFieldValue($obj, $key, $id_lang = NULL)
```

For more informations
For more informations about the PHP Doc norm:
http://manual.phpdoc.org/HTMLSmartyConverter/HandS/phpDocumentor/tuto

Return values

1. Return statement does not need brackets except when it deals with a composed
   expression

```
2.
3. return $result;
4. return ($a + $b);
5. return (a() - b());
6. return true;
```

7. Break a function

```
8.
9. return;
```

Call

Function call preceded by a "@" is forbidden but beware with function / method call with login / password or path argmuments.

```
myfunction()
// In the following exemple we put a @ for security reasons
@mysql_connect([...]);
```

Tags

1. An empty line has to be left after the PHP opening tag

```
2.
3. <?php
4.
5. require_once('my_file.inc.php');
```

6. The PHP ending tag is forbidden

Indentation

1. The tabulation character ("\t") is the only indentation character allowed
2. Each indentation level must be represented by a single tabulation character

```
3.
4. function foo($a)
5. {
6.   if ($a == null)
7.           return false;
8.   [...]
9. }
```

Array

1. The array keyword must not be followed by a space

```
2.
3. array(17, 23, 42);
```

4. The indentation when too much datas are inside an array has to follow the following

```
5.
6. $a = array(
7.   36 => $b,
8.   $c => 'foo',
9.   $d => array(17, 23, 42),
10.          $e => array(
11.                  0 => 'zero',
12.                  1 => $one
13.          )
14.  );
```

Bloc

Brasses are prohibited when they define only one instruction or a statement combination

```
if (!$result)
        return false;

for ($i = 0; $i < 17; $i++)
        if ($myArray[$i] == $value)
                $result[] = $myArray[$i];
        else
                $failed++;
```

Security

1. All user datas (datas entered by users) have to be casted.

```
$data = Tools::getValue('name');

$myObject->street_number = (int)Tools::getValue('street_number');
```

6. All method/function's parameters must be typed (when Array or Object) when received.

```
public myMethod(Array $var1, $var2, Object $var3)
```

9. For all other parameters they have to be casted each time they are use, but not when
sent to other methods/functions

```
protected myProtectedMethod($id, $text, $price)
{
        $this->id = (int)$id;
        $this->price = (float)$price;
        $this->callMethod($id, $price);
}
```

Limitations

1. Source code lines are limited to 120 characters
2. Functions and methods lines are limited to 80 with good justifications

Other

1. It's forbidden to use a ternary into another ternary
2. We recommend to use && and || into your conditions
3. Please don't use reference parameters

SQL

Table names

1. Table names must begin with the PrestaShop "*DB_PREFIX*" prefix

```
[...] FROM `'. _DB_PREFIX_.'customer` [...]
```

4. Table names must have the same name as the object they reflect e.g. "ps_cart"
5. Table names have to stay singular
   e.g. "ps_order"
6. Language data have to be stored in a table named exactly like the object's one and with the suffix "_lang" e.g. "ps_product_lang"

SQL query

1. Keywords must be written in uppercase.

```
2.
3. SELECT `firstname`
4. FROM `'. _DB_PREFIX_.'customer`
```
5. Back quotes ("`") must be used around field names and table names
```
6.
7. SELECT p.`foo`, c.`bar`
8. FROM `'. _DB_PREFIX_.'product` p, `'. _DB_PREFIX_.'customer` c
```
9. Table aliases have to be make by taking the first letter of each word, and must be
lowercase
```
10.
11.  SELECT p.`id_product`, pl.`name`
12.  FROM `'. _DB_PREFIX_.'product` p
13.  NATURAL JOIN `'. _DB_PREFIX_.'product_lang` pl
```
14. When conflicts between table aliases occur, the second character has to be taken too
```
15.
16.  SELECT ca.`id_product`, cu.`firstname`
17.  FROM `'.DB_PREFIX.'cart` ca, `'. _DB_PREFIX_.'customer` cu
```
18. Indentation has to be done for each clause
```
19.
20.  $query = 'SELECT pl.`name`
21.  FROM `'.PS_DBP.'product_lang` pl
22.  WHERE pl.`id_product` = 17';
```
23. It’s forbidden to make a join in WHERE clause