



STRIPECON
EUROPE 2023

Creating Your First Silverstripe Module

+ Exploring Module Customisation



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What we'll cover

- How to create a **new** Silverstripe module
 - How to make it available to the Silverstripe **community**
 - How to add **updates** to the module
- Different ways to **customise** modules created by **other** developers
- How to make it easier for **others** to customise **your** module

What is a Silverstripe “module”?

Modules | Silverstripe CMS Doc x +

docs.silverstripe.org/en/5/developer_guides/extending/modules/

CMS Docs Search V5

Getting Started

- Server Requirements
- Composer
- Environment Management
- Directory Structure
- Recipes

Lessons

Developer Guides

- Model and Databases
- Templates and Views
- Controllers
- Forms
- Configuration
- Extending Silverstripe CMS
 - Modules**
 - Extensions
 - Shortcodes
 - Dependency Injection

Version 5 ✔ SUPPORTED

Modules

Silverstripe CMS is designed to be a modular application system - even the CMS is simply a module that plugs into the core framework.

A module is a collection of classes, templates, and other resources that is loaded into a directory. Modules are [Composer packages](#), and are placed in the `vendor/` folder. These packages need to contain either a toplevel `_config` directory or `_config.php` file, as well as a special `type` in their `composer.json` file ([example](#)).

Like with any Composer package, we recommend declaring your PHP classes through [PSR-4 autoloading](#). Silverstripe CMS will automatically discover templates and configuration settings within your module when you next flush your cache.

Finding Modules

- [Official module list on silverstripe.org](#)
- [Packagist.org "silverstripe" tag](#)
- [GitHub.com "silverstripe" search](#)

Installation

Modules are installed through the [Composer](#) package manager. It enables you to install modules from specific versions, checking for compatibilities between modules and even allowing to track development branches of them. To

https://docs.silverstripe.org/en/5/developer_guides/extending/modules/



A module is a collection of classes, templates, and other resources that is loaded into a directory. Modules are [Composer packages](#) and are placed in the `vendor/` folder. These packages need to contain either a top-level `_config` directory or `_config.php` file, as well as a special `type` in their `composer.json` file ([example](#)).

https://docs.silverstripe.org/en/5/developer_guides/extending/modules/



Where can I find modules?

Home · SilverStripe Add-ons

addons.silverstripe.org

CMS FRAMEWORK **ADDONS** HOSTING ROADMAP HISTORY BSD LICENSE

MODULES THEMES VENDORS AUTHORS TAGS SUBMIT SUPPORTED MODULES DEFINITION COMMERCIALY SUPPORTED MODULES

Add-ons Themes Vendors Authors Tags **Submit**

Welcome to the [SilverStripe](#) add-on repository, based on the [Composer](#) packaging system for PHP. Use this site to find modules and themes to add to your SilverStripe website. For best results, we recommend [managing your project with Composer](#).

Search for

Popular Add-ons Average downloads per day ▾

symbiote/silverstripe-gridfieldextensions 471.74 per day
A collection of useful grid field components
silverstripe/mimevalidator 280.59 per day
Checks uploaded file content roughly matches a know...
silverstripe/segment-field 233.01 per day
A reusable approach to segment-generating fields
silverstripe/lumberjack 230.30 per day
A module to make managing pages in a GridField easy...

Newest Add-ons RSS

purplespider/car-database Aug 29, 2023
Displays multiple cars with an enquiry form.
sunnysideup/ecommerce-prepayment Aug 27, 2023
Allows Silverstripe-CMS Ecommerce to get customers to pr...
bigfork/silverstripe-linkset Aug 18, 2023
Silverstripe module that allows for easy adding of links to th...
silvercommerce/shoppingcart-purchaseurl Aug 14, 2023
Add a unique and secure purchase URL for shopping carts t...

addons.silverstripe.org



Packagist The PHP Package Repository

Browse Submit Create account Sign in

Search packages...

Packagist is the main [Composer](#) repository. It aggregates public PHP packages installable with Composer.

Package Name	Language	Downloads	Stars
composer/installers	PHP	74 933 774	1 449
silverstripe/framework	PHP	2 329 594	733
silverstripe/cms	PHP	2 228 044	519
wilr/silverstripe-googlesitemaps	PHP	359 314	75

Active filters

tag: silverstripe [Clear all](#)

Package type

behat-extension	1
composer-installer	5
composer-plugin	6
hestec-vendormodule	30
library	54
project	3
silverstripe-extension	1
silverstripe-module	1,391
silverstripe-patch	3
silverstripe-project	1
silverstripe-recipe	10
silverstripe-theme	104
silverstripe-vendormodule	1,778
vendor-module	3
vendormodule	1

Tags

packagist.org/search/?tags=silverstripe



Repository search results x +

github.com/search?q=silverstripe&type=repositories

silverstripe

Filter by

- Code 106k
- Repositories 5.6k
- Issues 17k
- Pull requests 17k
- Discussions 17
- Users 133
- More

Languages

- PHP
- JavaScript
- CSS
- Scheme
- Shell
- HTML
- Dockerfile
- SCSS

5.6k results (252 ms) Sort by: Best match Save ...

silverstripe/silverstripe-framework Unstar

Silverstripe Framework, the MVC framework that powers Silverstripe CMS

hacktoberfest

PHP · 724 · Updated 6 hours ago

silverstripe/silverstripe-cms Unstar

Silverstripe CMS - this is a module for Silverstripe Framework rather than a standalone app. Use <https://github.com/silverstripe/silverst...>

cms hacktoberfest

PHP · 510 · Updated 7 hours ago

silverstripe/silverstripe-userforms Unstar

UserForms module provides a visual form builder for the Silverstripe CMS. No coding required to build forms such as contact pages.

hacktoberfest

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[Give feedback](#)

ProTip! Press the `/` key to activate the search input again and adjust your query.

github.com/search?q=silverstripe&type=repositories



How do I install modules?

Installation

```
composer require silverstripe/blog
```



<https://github.com/silverstripe/silverstripe-blog>

How do I create a module?

Why should I create a module?

Why should I create a module?

- To **group** the code for related functionality within your site.
- To **reuse** a specific feature on multiple projects.
- To **share** functionality with other Silverstripe developers.
- **All** of the above.

How do I create a module?



DEMO 🤨

How do I update my module?

DEMO

**How do I customise a module
created by another developer?**

Customising Modules

Why?

- Add a **feature**.
- **Disable** a feature.
- Fix a **bug**.
- Resolve a **security** issue.

Customising Modules

Why not just edit the files **directly**?

- **Composer** won't be happy. 😞
- **Harder to update** the module in future.
- **Harder to maintain** your project.

Customising Modules

1. Override module templates

DEMO

Customising Modules

2. Create an Extension

DEMO

Customising Modules

2. Create an Extension

Make use of existing hooks:

car-database / src / **VehicleHoldingPageController.php**

```
public function EnquiryForm()
{
    ...

    $form = Form::create($this, __FUNCTION__, $fields, $actions);

    $this->extend('updateEnquiryForm', $form);

    return $form;
}
```


Customising Modules

2. Create an Extension

Make use of existing hooks:

app / src / **VehicleHoldingPageController**Extension.php

```
public function updateEnquiryForm($form)
{
    $form->getFields()->removeByName('ReturnLocation');
}
```

Customising Modules

2. Create an **Extension**

- Create **modules** of **Extension(s)**
- Extensions are reliant on **existing** hooks

Customising Modules

3. Subclass and use Injector

DEMO

Customising Modules

4. **Fork** the module and modify

LAST RESORT!

4. **Forking** the module and modifying

The screenshot shows the GitHub repository page for silverstripe/silverstripe-userforms. The browser address bar shows the URL github.com/silverstripe/silverstripe-userforms. The repository name is silverstripe-userforms, and it is marked as Public. The repository has 6 forks, 36 branches, and 140 tags. The commit history shows a recent merge by GuySartorelli. The file list includes folders like .github/workflows, .tx, _config, client, code, docs, and images. The right sidebar contains an 'About' section with a description of the UserForms module and a list of links including Readme, BSD-3-Clause license, Code of conduct, Activity, 133 stars, and 25 watching.

silverstripe / silverstripe-userforms

Code Issues 84 Pull requests 7 Actions Projects Security Insights

silverstripe-userforms Public

Edit Pins Watch 25 Fork 225 Starred 133

6 forks 36 branches 140 tags

Go to file Add file Code

GuySartorelli Merge branch '6.0' into 6 ✓ cd1fdd3 14 hours ago 1,849 commits

.github/workflows	MNT Run module-standardiser	yesterday
.tx	ENH Update translations	5 months ago
_config	Merge branch '5' into 6.0	last week
client	DEP Update eslint module (#1222)	last month
code	Merge branch '5' into 6.0	last week
docs	DOC Correct title for userhelp	last year
images	Add sitetree icon	8 years ago

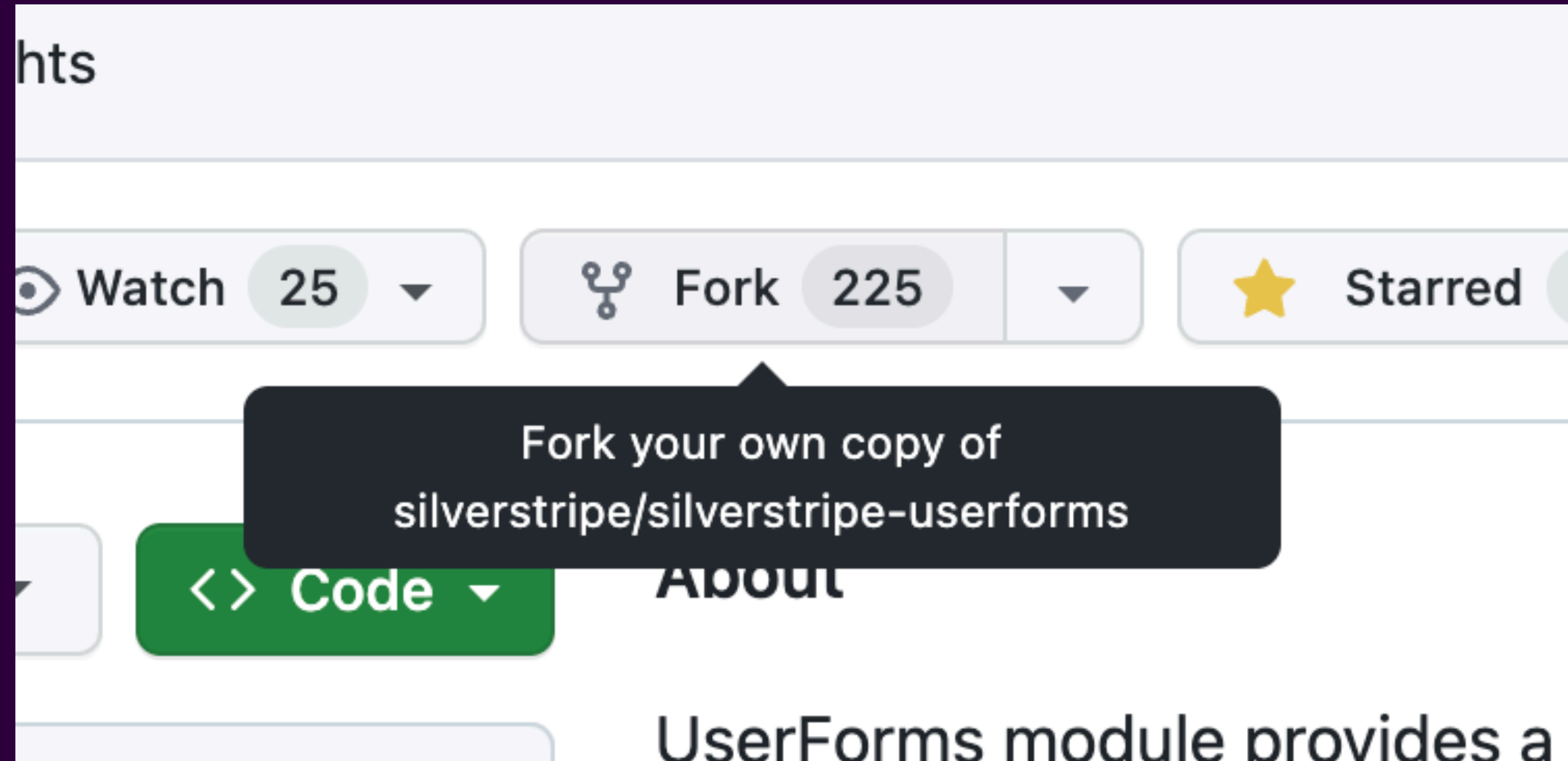
About

UserForms module provides a visual form builder for the Silverstripe CMS. No coding required to build forms such as contact pages.

hacktoberfest

- Readme
- BSD-3-Clause license
- Code of conduct
- Activity
- 133 stars
- 25 watching

4. **Forking** the module and modifying



4. **Forking** the module and modifying

The screenshot shows a web browser window with the URL `github.com/silverstripe/silverstripe-userforms/fork`. The page title is "Create a new fork". Below the title, there is a paragraph explaining that a fork is a copy of a repository and that forking allows for experimentation without affecting the original project. A link "View existing forks." is provided. A note states "Required fields are marked with an asterisk (*)".

The form has two main fields:

- Owner ***: A dropdown menu showing the user "purplespider".
- Repository name ***: A text input field containing "silverstripe-userforms".

Below the repository name field, there is a green checkmark and the text "silverstripe-userforms is available."

A paragraph explains: "By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further."

Description (optional): A text area containing the text "UserForms module provides a visual form builder for the Silverstripe CMS. No coding required to build for".

At the bottom, there is a checked checkbox with the text "Copy the 6 branch only".

4. **Forking** the module and modifying

The screenshot shows a web browser window displaying the GitHub repository page for 'silverstripe-userforms' by 'purplespider'. The browser's address bar shows the URL 'github.com/purplespider/silverstripe-userforms'. The repository page includes a navigation bar with options like 'Code', 'Pull requests', 'Actions', 'Projects', 'Security', 'Insights', and 'Settings'. Below the navigation bar, the repository name 'silverstripe-userforms' is shown as 'Public', along with statistics for 'Pin', 'Watch' (0), 'Fork' (225), and 'Star' (0). A message indicates 'This branch is up to date with silverstripe/silverstripe-userforms:6.' and provides options to 'Contribute' or 'Sync fork'. A commit history table is visible, showing a recent merge by 'GuySartorelli' and a list of files with their commit messages and dates. On the right side, there is an 'About' section with a description of the 'UserForms' module and a list of links for 'Readme', 'BSD-3-Clause license', 'Activity', '0 stars', '0 watching', and '225 forks'.

purplespider / silverstripe-userforms

github.com/purplespider/silverstripe-userforms

Code Pull requests Actions Projects Security Insights Settings

silverstripe-userforms Public

forked from silverstripe/silverstripe-userforms

6 1 branch 0 tags

Go to file Add file Code

This branch is up to date with silverstripe/silverstripe-userforms:6. Contribute Sync fork

GuySartorelli	Merge branch '6.0' into 6	cd1fdd3 14 hours ago	🕒 1,849 commits
.github/workflows	MNT Run module-standardiser		yesterday
.tx	ENH Update translations		5 months ago
_config	Merge branch '5' into 6.0		last week
client	DEP Update eslint module (silverstripe#1222)		last month

About

UserForms module provides a visual form builder for the Silverstripe CMS. No coding required to build forms such as contact pages.

- Readme
- BSD-3-Clause license
- Activity
- 0 stars
- 0 watching
- 225 forks

4. **Forking** the module and modifying

The screenshot shows the GitHub web interface for the repository 'purlespider / silverstripe-userforms'. The browser address bar displays 'github.com/purlespider/silverstripe-userforms/branches'. The page header includes navigation links for 'Code', 'Pull requests', 'Actions', 'Projects', 'Security', 'Insights', and 'Settings'. A search bar is present with the text 'Type / to search'. The main content area shows a list of branches with a search bar 'Search branches...' and a 'New branch' button. A modal dialog box titled 'Create a branch' is open in the foreground. The dialog has a close button (X) in the top right corner. It contains the following fields and options:

- New branch name:** A text input field containing 'new-feature-1' and a copy icon.
- Source:** A section with the text 'Choose from this fork or its upstream repository.' Below it is a dropdown menu showing 'purlespider/sil...' and a copy icon.
- Branches:** A dropdown menu showing '6'.
- Buttons:** 'Cancel' and 'Create new branch' (highlighted in green).

The background interface is dimmed, showing a 'Default branch' section with a refresh icon and a 'New branch' button in green. The footer of the page includes the GitHub logo, copyright information '© 2023 GitHub, Inc.', and links for 'Terms', 'Privacy', 'Security', 'Training', 'Blog', and 'About'.

4. **Forking** the module and modifying

composer.json (of your website)

```
"repositories": [  
    {  
        "type": "vcs",  
        "url": "git@github.com:purplespider/silverstripe-userforms.git"  
    }  
],
```

4. **Forking** the module and modifying

Run from website root:

```
composer require  
    silverstripe/userforms:"dev-new-feature-1 as 6.0.0"  
    --prefer-source
```

Customising Modules

Summary

1. Start with copying over the **templates**
2. Then create **Extensions** to adjust module behaviour
3. Try **Injector**, if Extensions can't help
4. Failing that, **Fork** the module, install using composer

**How can I make my module
easier for others to customise?**

Making My Module Flexible

1. Add **config** options

car-database / **_config** / **config.yml**

```
PurpleSpider\CarDatabase\VehicleHoldingPage:  
  enable_form: true
```

car-database / src / **VehicleHoldingPage.php**

```
function getDisplayForm()  
{  
    return $this->config()->get('enable_form');  
}
```

Making My Module Flexible

1. Add **config** options

app / **_config** / **config.yml**

```
...
```

```
PurpleSpider\CarDatabase\VehicleHoldingPage:  
  enable_form: false
```

Making My Module Flexible

2. Add extension hooks

car-database / src / **VehicleHoldingPageController.php**

```
public function EnquiryForm()
{
    ...

    $form = Form::create($this, __FUNCTION__, $fields, $actions);

    $this->extend('updateEnquiryForm', $form);

    return $form;
}
```


Making My Module Flexible

2. Add extension hooks

app / src / **VehicleHoldingPageControllerExtension.php**

```
public function updateEnquiryForm($form)
{
    $form->getFields()->removeByName('ReturnDate');
}
```

Making My Module Flexible

3. Enable localisation

car-database / src / **VehicleHoldingPageController.php**

```
public function EnquiryForm()
{
    ...

    FormAction::create('doEnquiryForm')->setTitle('Send')

    ...

    return $form;
}
```

Making My Module Flexible

3. Enable localisation

Replace any strings:

```
"Send"
```

With the `_t()` function (in PHP files):

```
_t(__CLASS__.'Send', "Send")
```

Or if in a `.ss` template:

```
<%t PurpleSpider\\CarDatabase\\VehicleHoldingPage.Enquire "Enquire" %>
```

Making My Module Flexible

3. Allow localisation

Then create a: `car-database / lang / en.yml`

```
en:  
  PurpleSpider\CarDatabase\VehicleHoldingPageController:  
    Send: "Send"  
    Enquire: "Enquire"
```

This allows someone to create: `app / lang / de.yml`


```
de:  
  PurpleSpider\CarDatabase\VehicleHoldingPageController:  
    Send: "Senden"  
    Enquire: "Erkundigen"
```

Making My Module Flexible

4. Use `beforeUpdateCMSFields`

car-database / src / **VehicleHoldingPage.php**

```
function getCMSFields()  
{  
    $fields = parent::getCMSFields();  
  
    $fields->addFieldToTab(  
        "Root.Main",  
        EmailField::create('EnquiryEmail', 'Enquiry Form Email'),  
        'Content'  
    );  
  
    return $fields;  
}
```



Making My Module Flexible

4. Use `beforeUpdateCMSFields`

car-database / src / **VehicleHoldingPage.php**

```
public function getCMSFields()
{
    $this->beforeUpdateCMSFields(function ($fields) { ← ✓
        $fields->addFieldToTab(
            "Root.Main",
            EmailField::create('EnquiryEmail', 'Enquiry Form Email'),
            'Content'
        );
    });

    $fields = parent::getCMSFields(); ←
    return $fields;
}
```

Get creating!

Links & Code Snippets

purplespider.com/stripecon2023-creating-modules

