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classic layout

Creating Libraries[**¶**](#gjdgxs)

When we use the term “Libraries” we are normally referring to the classes that are located in the libraries directory and described in the Class Reference of this user guide. In this case, however, we will instead describe how you can create your own libraries within your application/libraries directory in order to maintain separation between your local resources and the global framework resources.

As an added bonus, CodeIgniter permits your libraries to extend native classes if you simply need to add some functionality to an existing library. Or you can even replace native libraries just by placing identically named versions in your *application/libraries* directory.

In summary:

* You can create entirely new libraries.
* You can extend native libraries.
* You can replace native libraries.

The page below explains these three concepts in detail.

Note

The Database classes can not be extended or replaced with your own classes. All other classes are able to be replaced/extended.

Storage[**¶**](#30j0zll)

Your library classes should be placed within your *application/libraries* directory, as this is where CodeIgniter will look for them when they are initialized.

Naming Conventions[**¶**](#1fob9te)

* File names must be capitalized. For example: Myclass.php
* Class declarations must be capitalized. For example: class Myclass
* Class names and file names must match.

The Class File[**¶**](#3znysh7)

Classes should have this basic prototype:

<?php  
defined('BASEPATH') OR exit('No direct script access allowed');  
  
class Someclass {  
  
 public function some\_method()  
 {  
 }  
}

Note

We are using the name Someclass purely as an example.

Using Your Class[**¶**](#2et92p0)

From within any of your [*Controller*](http://docs.google.com/controllers.html) methods you can initialize your class using the standard:

$this->load->library('someclass');

Where *someclass* is the file name, without the ”.php” file extension. You can submit the file name capitalized or lower case. CodeIgniter doesn’t care.

Once loaded you can access your class using the lower case version:

$this->someclass->some\_method();  // Object instances will always be lower case

Passing Parameters When Initializing Your Class[**¶**](#tyjcwt)

In the library loading method you can dynamically pass data as an array via the second parameter and it will be passed to your class constructor:

$params = array('type' => 'large', 'color' => 'red');  
  
$this->load->library('someclass', $params);

If you use this feature you must set up your class constructor to expect data:

<?php defined('BASEPATH') OR exit('No direct script access allowed');  
  
class Someclass {  
  
 public function \_\_construct($params)  
 {  
 // Do something with $params  
 }  
}

You can also pass parameters stored in a config file. Simply create a config file named identically to the class file name and store it in your *application/config/* directory. Note that if you dynamically pass parameters as described above, the config file option will not be available.

Utilizing CodeIgniter Resources within Your Library[**¶**](#3dy6vkm)

To access CodeIgniter’s native resources within your library use the get\_instance() method. This method returns the CodeIgniter super object.

Normally from within your controller methods you will call any of the available CodeIgniter methods using the $this construct:

$this->load->helper('url');  
$this->load->library('session');  
$this->config->item('base\_url');  
// etc.

$this, however, only works directly within your controllers, your models, or your views. If you would like to use CodeIgniter’s classes from within your own custom classes you can do so as follows:

First, assign the CodeIgniter object to a variable:

$CI =& get\_instance();

Once you’ve assigned the object to a variable, you’ll use that variable *instead* of $this:

$CI =& get\_instance();  
  
$CI->load->helper('url');  
$CI->load->library('session');  
$CI->config->item('base\_url');  
// etc.

Note

You’ll notice that the above get\_instance() function is being passed by reference:

$CI =& get\_instance();

This is very important. Assigning by reference allows you to use the original CodeIgniter object rather than creating a copy of it.

However, since a library is a class, it would be better if you take full advantage of the OOP principles. So, in order to be able to use the CodeIgniter super-object in all of the class methods, you’re encouraged to assign it to a property instead:

class Example\_library {  
  
 protected $CI;  
  
 // We'll use a constructor, as you can't directly call a function  
 // from a property definition.  
 public function \_\_construct()  
 {  
 // Assign the CodeIgniter super-object  
 $this->CI =& get\_instance();  
 }  
  
 public function foo()  
 {  
 $this->CI->load->helper('url');  
 redirect();  
 }  
  
 public function bar()  
 {  
 echo $this->CI->config->item('base\_url');  
 }  
  
}

Replacing Native Libraries with Your Versions[**¶**](#1t3h5sf)

Simply by naming your class files identically to a native library will cause CodeIgniter to use it instead of the native one. To use this feature you must name the file and the class declaration exactly the same as the native library. For example, to replace the native Email library you’ll create a file named *application/libraries/Email.php*, and declare your class with:

class CI\_Email {  
  
}

Note that most native classes are prefixed with CI\_.

To load your library you’ll see the standard loading method:

$this->load->library('email');

Note

At this time the Database classes can not be replaced with your own versions.

Extending Native Libraries[**¶**](#4d34og8)

If all you need to do is add some functionality to an existing library - perhaps add a method or two - then it’s overkill to replace the entire library with your version. In this case it’s better to simply extend the class. Extending a class is nearly identical to replacing a class with a couple exceptions:

* The class declaration must extend the parent class.
* Your new class name and filename must be prefixed with MY\_ (this item is configurable. See below.).

For example, to extend the native Email class you’ll create a file named *application/libraries/MY\_Email.php*, and declare your class with:

class MY\_Email extends CI\_Email {  
  
}

If you need to use a constructor in your class make sure you extend the parent constructor:

class MY\_Email extends CI\_Email {  
  
 public function \_\_construct($config = array())  
 {  
 parent::\_\_construct($config);  
 }  
  
}

Note

Not all of the libraries have the same (or any) parameters in their constructor. Take a look at the library that you’re extending first to see how it should be implemented.

Loading Your Sub-class[**¶**](#2s8eyo1)

To load your sub-class you’ll use the standard syntax normally used. DO NOT include your prefix. For example, to load the example above, which extends the Email class, you will use:

$this->load->library('email');

Once loaded you will use the class variable as you normally would for the class you are extending. In the case of the email class all calls will use:

$this->email->some\_method();

Setting Your Own Prefix[**¶**](#17dp8vu)

To set your own sub-class prefix, open your *application/config/config.php* file and look for this item:

$config['subclass\_prefix'] = 'MY\_';

Please note that all native CodeIgniter libraries are prefixed with CI\_ so DO NOT use that as your prefix.

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