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* URI Routing

classic layout

URI Routing[**¶**](#gjdgxs)

Typically there is a one-to-one relationship between a URL string and its corresponding controller class/method. The segments in a URI normally follow this pattern:

example.com/class/function/id/

In some instances, however, you may want to remap this relationship so that a different class/method can be called instead of the one corresponding to the URL.

For example, let’s say you want your URLs to have this prototype:

example.com/product/1/  
example.com/product/2/  
example.com/product/3/  
example.com/product/4/

Normally the second segment of the URL is reserved for the method name, but in the example above it instead has a product ID. To overcome this, CodeIgniter allows you to remap the URI handler.

Setting your own routing rules[**¶**](#30j0zll)

Routing rules are defined in your *application/config/routes.php* file. In it you’ll see an array called $route that permits you to specify your own routing criteria. Routes can either be specified using wildcards or Regular Expressions.

Wildcards[**¶**](#1fob9te)

A typical wildcard route might look something like this:

$route['product/:num'] = 'catalog/product\_lookup';

In a route, the array key contains the URI to be matched, while the array value contains the destination it should be re-routed to. In the above example, if the literal word “product” is found in the first segment of the URL, and a number is found in the second segment, the “catalog” class and the “product\_lookup” method are instead used.

You can match literal values or you can use two wildcard types:

**(:num)** will match a segment containing only numbers. **(:any)** will match a segment containing any character (except for ‘/’, which is the segment delimiter).

Note

Wildcards are actually aliases for regular expressions, with **:any** being translated to **[^/]+** and **:num** to **[0-9]+**, respectively.

Note

Routes will run in the order they are defined. Higher routes will always take precedence over lower ones.

Note

Route rules are not filters! Setting a rule of e.g. ‘foo/bar/(:num)’ will not prevent controller *Foo* and method *bar* to be called with a non-numeric value if that is a valid route.

Examples[**¶**](#3znysh7)

Here are a few routing examples:

$route['journals'] = 'blogs';

A URL containing the word “journals” in the first segment will be remapped to the “blogs” class.

$route['blog/joe'] = 'blogs/users/34';

A URL containing the segments blog/joe will be remapped to the “blogs” class and the “users” method. The ID will be set to “34”.

$route['product/(:any)'] = 'catalog/product\_lookup';

A URL with “product” as the first segment, and anything in the second will be remapped to the “catalog” class and the “product\_lookup” method.

$route['product/(:num)'] = 'catalog/product\_lookup\_by\_id/$1';

A URL with “product” as the first segment, and a number in the second will be remapped to the “catalog” class and the “product\_lookup\_by\_id” method passing in the match as a variable to the method.

Important

Do not use leading/trailing slashes.

Regular Expressions[**¶**](#2et92p0)

If you prefer you can use regular expressions to define your routing rules. Any valid regular expression is allowed, as are back-references.

Note

If you use back-references you must use the dollar syntax rather than the double backslash syntax.

A typical RegEx route might look something like this:

$route['products/([a-z]+)/(\d+)'] = '$1/id\_$2';

In the above example, a URI similar to products/shirts/123 would instead call the “shirts” controller class and the “id\_123” method.

With regular expressions, you can also catch multiple segments at once. For example, if a user accesses a password protected area of your web application and you wish to be able to redirect them back to the same page after they log in, you may find this example useful:

$route['login/(.+)'] = 'auth/login/$1';

Note

In the above example, if the $1 placeholder contains a slash, it will still be split into multiple parameters when passed to Auth::login().

For those of you who don’t know regular expressions and want to learn more about them, [regular-expressions.info](http://www.regular-expressions.info/) might be a good starting point.

Note

You can also mix and match wildcards with regular expressions.

Callbacks[**¶**](#tyjcwt)

You can also use callbacks in place of the normal routing rules to process the back-references. Example:

$route['products/([a-zA-Z]+)/edit/(\d+)'] = function ($product\_type, $id)  
{  
 return 'catalog/product\_edit/' . strtolower($product\_type) . '/' . $id;  
};

Using HTTP verbs in routes[**¶**](#3dy6vkm)

It is possible to use HTTP verbs (request method) to define your routing rules. This is particularly useful when building RESTful applications. You can use standard HTTP verbs (GET, PUT, POST, DELETE, PATCH) or a custom one such (e.g. PURGE). HTTP verb rules are case-insensitive. All you need to do is to add the verb as an array key to your route. Example:

$route['products']['put'] = 'product/insert';

In the above example, a PUT request to URI “products” would call the Product::insert() controller method.

$route['products/(:num)']['DELETE'] = 'product/delete/$1';

A DELETE request to URL with “products” as first the segment and a number in the second will be mapped to the Product::delete() method, passing the numeric value as the first parameter.

Using HTTP verbs is of course, optional.

Reserved Routes[**¶**](#1t3h5sf)

There are three reserved routes:

$route['default\_controller'] = 'welcome';

This route points to the action that should be executed if the URI contains no data, which will be the case when people load your root URL. The setting accepts a **controller/method** value and index() would be the default method if you don’t specify one. In the above example, it is Welcome::index() that would be called.

Note

You can NOT use a directory as a part of this setting!

You are encouraged to always have a default route as otherwise a 404 page will appear by default.

$route['404\_override'] = '';

This route indicates which controller class should be loaded if the requested controller is not found. It will override the default 404 error page. Same per-directory rules as with ‘default\_controller’ apply here as well.

It won’t affect to the show\_404() function, which will continue loading the default *error\_404.php* file at *application/views/errors/error\_404.php*.

$route['translate\_uri\_dashes'] = FALSE;

As evident by the boolean value, this is not exactly a route. This option enables you to automatically replace dashes (‘-‘) with underscores in the controller and method URI segments, thus saving you additional route entries if you need to do that. This is required, because the dash isn’t a valid class or method name character and would cause a fatal error if you try to use it.

Important

The reserved routes must come before any wildcard or regular expression routes.

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