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* Encrypt Class

classic layout

Encrypt Class[**¶**](#30j0zll)

The Encrypt Class provides two-way data encryption. It encrypted using the Mcrypt PHP extension, which is required for the Encrypt Class to run.

Important

This library has been DEPRECATED and is only kept for backwards compatibility. Please use the new [Encryption Library](http://docs.google.com/encryption.html).

* [Using the Encrypt Library](#1fob9te)
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[**Using the Encrypt Library**](#1t3h5sf)[**¶**](#1fob9te)

[**Setting your Key**](#4d34og8)[**¶**](#3znysh7)

A *key* is a piece of information that controls the cryptographic process and permits an encrypted string to be decoded. In fact, the key you chose will provide the **only** means to decode data that was encrypted with that key, so not only must you choose the key carefully, you must never change it if you intend use it for persistent data.

It goes without saying that you should guard your key carefully. Should someone gain access to your key, the data will be easily decoded. If your server is not totally under your control it’s impossible to ensure key security so you may want to think carefully before using it for anything that requires high security, like storing credit card numbers.

To take maximum advantage of the encryption algorithm, your key should be 32 characters in length (256 bits). The key should be as random a string as you can concoct, with numbers and uppercase and lowercase letters. Your key should **not** be a simple text string. In order to be cryptographically secure it needs to be as random as possible.

Your key can be either stored in your **application/config/config.php**, or you can design your own storage mechanism and pass the key dynamically when encoding/decoding.

To save your key to your **application/config/config.php**, open the file and set:

$config['encryption\_key'] = "YOUR KEY";

[**Message Length**](#2s8eyo1)[**¶**](#2et92p0)

It’s important for you to know that the encoded messages the encryption function generates will be approximately 2.6 times longer than the original message. For example, if you encrypt the string “my super secret data”, which is 21 characters in length, you’ll end up with an encoded string that is roughly 55 characters (we say “roughly” because the encoded string length increments in 64 bit clusters, so it’s not exactly linear). Keep this information in mind when selecting your data storage mechanism. Cookies, for example, can only hold 4K of information.

[**Initializing the Class**](#17dp8vu)[**¶**](#tyjcwt)

Like most other classes in CodeIgniter, the Encrypt class is initialized in your controller using the $this->load->library() method:

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

Once loaded, the Encrypt library object will be available using:

$this->encrypt

[**Class Reference**](#3rdcrjn)[**¶**](#3dy6vkm)

*class* CI\_Encrypt[¶](#26in1rg) encode(*$string*[, *$key = ''*])[¶](#lnxbz9)

|  |  |
| --- | --- |
| Parameters: | * **$string** (*string*) – Data to encrypt * **$key** (*string*) – Encryption key |
| Returns: | Encrypted string |
| Return type: | string |

Performs the data encryption and returns it as a string. Example:

$msg = 'My secret message';  
  
$encrypted\_string = $this->encrypt->encode($msg);

You can optionally pass your encryption key via the second parameter if you don’t want to use the one in your config file:

$msg = 'My secret message';  
$key = 'super-secret-key';  
  
$encrypted\_string = $this->encrypt->encode($msg, $key);

decode(*$string*[, *$key = ''*])[¶](#35nkun2)

|  |  |
| --- | --- |
| Parameters: | * **$string** (*string*) – String to decrypt * **$key** (*string*) – Encryption key |
| Returns: | Plain-text string |
| Return type: | string |

Decrypts an encoded string. Example:

$encrypted\_string = 'APANtByIGI1BpVXZTJgcsAG8GZl8pdwwa84';  
  
$plaintext\_string = $this->encrypt->decode($encrypted\_string);

You can optionally pass your encryption key via the second parameter if you don’t want to use the one in your config file:

$msg = 'My secret message';  
$key = 'super-secret-key';  
  
$encrypted\_string = $this->encrypt->decode($msg, $key);

set\_cipher(*$cipher*)[¶](#1ksv4uv)

|  |  |
| --- | --- |
| Parameters: | * **$cipher** (*int*) – Valid PHP MCrypt cypher constant |
| Returns: | CI\_Encrypt instance (method chaining) |
| Return type: | CI\_Encrypt |

Permits you to set an Mcrypt cipher. By default it uses MCRYPT\_RIJNDAEL\_256. Example:

$this->encrypt->set\_cipher(MCRYPT\_BLOWFISH);

Please visit php.net for a list of [available ciphers](http://php.net/mcrypt).

If you’d like to manually test whether your server supports MCrypt you can use:

echo extension\_loaded('mcrypt') ? 'Yup' : 'Nope';

set\_mode(*$mode*)[¶](#44sinio)

|  |  |
| --- | --- |
| Parameters: | * **$mode** (*int*) – Valid PHP MCrypt mode constant |
| Returns: | CI\_Encrypt instance (method chaining) |
| Return type: | CI\_Encrypt |

Permits you to set an Mcrypt mode. By default it uses **MCRYPT\_MODE\_CBC**. Example:

$this->encrypt->set\_mode(MCRYPT\_MODE\_CFB);

Please visit php.net for a list of [available modes](http://php.net/mcrypt).

encode\_from\_legacy(*$string*[, *$legacy\_mode = MCRYPT\_MODE\_ECB*[, *$key = ''*]])[¶](#2jxsxqh)

|  |  |
| --- | --- |
| Parameters: | * **$string** (*string*) – String to encrypt * **$legacy\_mode** (*int*) – Valid PHP MCrypt cipher constant * **$key** (*string*) – Encryption key |
| Returns: | Newly encrypted string |
| Return type: | string |

Enables you to re-encode data that was originally encrypted with CodeIgniter 1.x to be compatible with the Encrypt library in CodeIgniter 2.x. It is only necessary to use this method if you have encrypted data stored permanently such as in a file or database and are on a server that supports Mcrypt. “Light” use encryption such as encrypted session data or transitory encrypted flashdata require no intervention on your part. However, existing encrypted Sessions will be destroyed since data encrypted prior to 2.x will not be decoded.

Important

**Why only a method to re-encode the data instead of maintaining legacy methods for both encoding and decoding?** The algorithms in the Encrypt library have improved in CodeIgniter 2.x both for performance and security, and we do not wish to encourage continued use of the older methods. You can of course extend the Encryption library if you wish and replace the new methods with the old and retain seamless compatibility with CodeIgniter 1.x encrypted data, but this a decision that a developer should make cautiously and deliberately, if at all.

$new\_data = $this->encrypt->encode\_from\_legacy($old\_encrypted\_string);

|  |  |  |
| --- | --- | --- |
| Parameter | Default | Description |
| **$orig\_data** | n/a | The original encrypted data from CodeIgniter 1.x’s Encryption library |
| **$legacy\_mode** | MCRYPT\_MODE\_ECB | The Mcrypt mode that was used to generate the original encrypted data. CodeIgniter 1.x’s default was MCRYPT\_MODE\_ECB, and it will assume that to be the case unless overridden by this parameter. |
| **$key** | n/a | The encryption key. This it typically specified in your config file as outlined above. |

[Next](http://docs.google.com/encryption.html)   [Previous](http://docs.google.com/email.html)

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Built with [Sphinx](http://sphinx-doc.org/) using a [theme](https://github.com/snide/sphinx_rtd_theme) provided by [Read the Docs](https://readthedocs.org).