* [Welcome to CodeIgniter](http://docs.google.com/general/welcome.html)
* [Installation Instructions](http://docs.google.com/installation/index.html)
  + [Downloading CodeIgniter](http://docs.google.com/installation/downloads.html)
  + [Installation Instructions](http://docs.google.com/installation/index.html)
  + [Upgrading From a Previous Version](http://docs.google.com/installation/upgrading.html)
  + [Troubleshooting](http://docs.google.com/installation/troubleshooting.html)
* [CodeIgniter Overview](http://docs.google.com/overview/index.html)
  + [Getting Started](http://docs.google.com/overview/getting_started.html)
  + [CodeIgniter at a Glance](http://docs.google.com/overview/at_a_glance.html)
  + [Supported Features](http://docs.google.com/overview/features.html)
  + [Application Flow Chart](http://docs.google.com/overview/appflow.html)
  + [Model-View-Controller](http://docs.google.com/overview/mvc.html)
  + [Architectural Goals](http://docs.google.com/overview/goals.html)
* [Tutorial](http://docs.google.com/tutorial/index.html)
  + [Static pages](http://docs.google.com/tutorial/static_pages.html)
  + [News section](http://docs.google.com/tutorial/news_section.html)
  + [Create news items](http://docs.google.com/tutorial/create_news_items.html)
  + [Conclusion](http://docs.google.com/tutorial/conclusion.html)
* [Contributing to CodeIgniter](http://docs.google.com/contributing/index.html)
  + [Writing CodeIgniter Documentation](http://docs.google.com/documentation/index.html)
  + [Developer’s Certificate of Origin 1.1](http://docs.google.com/DCO.html)
* [General Topics](http://docs.google.com/general/index.html)
  + [CodeIgniter URLs](http://docs.google.com/general/urls.html)
  + [Controllers](http://docs.google.com/general/controllers.html)
  + [Reserved Names](http://docs.google.com/general/reserved_names.html)
  + [Views](http://docs.google.com/general/views.html)
  + [Models](http://docs.google.com/general/models.html)
  + [Helpers](http://docs.google.com/general/helpers.html)
  + [Using CodeIgniter Libraries](http://docs.google.com/general/libraries.html)
  + [Creating Libraries](http://docs.google.com/general/creating_libraries.html)
  + [Using CodeIgniter Drivers](http://docs.google.com/general/drivers.html)
  + [Creating Drivers](http://docs.google.com/general/creating_drivers.html)
  + [Creating Core System Classes](http://docs.google.com/general/core_classes.html)
  + [Creating Ancillary Classes](http://docs.google.com/general/ancillary_classes.html)
  + [Hooks - Extending the Framework Core](http://docs.google.com/general/hooks.html)
  + [Auto-loading Resources](http://docs.google.com/general/autoloader.html)
  + [Common Functions](http://docs.google.com/general/common_functions.html)
  + [Compatibility Functions](http://docs.google.com/general/compatibility_functions.html)
  + [URI Routing](http://docs.google.com/general/routing.html)
  + [Error Handling](http://docs.google.com/general/errors.html)
  + [Caching](http://docs.google.com/general/caching.html)
  + [Profiling Your Application](http://docs.google.com/general/profiling.html)
  + [Running via the CLI](http://docs.google.com/general/cli.html)
  + [Managing your Applications](http://docs.google.com/general/managing_apps.html)
  + [Handling Multiple Environments](http://docs.google.com/general/environments.html)
  + [Alternate PHP Syntax for View Files](http://docs.google.com/general/alternative_php.html)
  + [Security](http://docs.google.com/general/security.html)
  + [PHP Style Guide](http://docs.google.com/general/styleguide.html)
* [Libraries](http://docs.google.com/index.html)
  + [Benchmarking Class](http://docs.google.com/benchmark.html)
  + [Caching Driver](http://docs.google.com/caching.html)
  + [Calendaring Class](http://docs.google.com/calendar.html)
  + [Shopping Cart Class](http://docs.google.com/cart.html)
  + [Config Class](http://docs.google.com/config.html)
  + [Email Class](http://docs.google.com/email.html)
  + [Encrypt Class](http://docs.google.com/encrypt.html)
  + [Encryption Library](http://docs.google.com/encryption.html)
  + [File Uploading Class](http://docs.google.com/file_uploading.html)
  + [Form Validation](http://docs.google.com/form_validation.html)
  + [FTP Class](http://docs.google.com/ftp.html)
  + [Image Manipulation Class](http://docs.google.com/image_lib.html)
  + [Input Class](http://docs.google.com/input.html)
  + [Javascript Class](http://docs.google.com/javascript.html)
  + [Language Class](http://docs.google.com/language.html)
  + [Loader Class](http://docs.google.com/loader.html)
  + [Migrations Class](#gjdgxs)
  + [Output Class](http://docs.google.com/output.html)
  + [Pagination Class](http://docs.google.com/pagination.html)
  + [Template Parser Class](http://docs.google.com/parser.html)
  + [Security Class](http://docs.google.com/security.html)
  + [Session Library](http://docs.google.com/sessions.html)
  + [HTML Table Class](http://docs.google.com/table.html)
  + [Trackback Class](http://docs.google.com/trackback.html)
  + [Typography Class](http://docs.google.com/typography.html)
  + [Unit Testing Class](http://docs.google.com/unit_testing.html)
  + [URI Class](http://docs.google.com/uri.html)
  + [User Agent Class](http://docs.google.com/user_agent.html)
  + [XML-RPC and XML-RPC Server Classes](http://docs.google.com/xmlrpc.html)
  + [Zip Encoding Class](http://docs.google.com/zip.html)
* [Database Reference](http://docs.google.com/database/index.html)
  + [Quick Start: Usage Examples](http://docs.google.com/database/examples.html)
  + [Database Configuration](http://docs.google.com/database/configuration.html)
  + [Connecting to a Database](http://docs.google.com/database/connecting.html)
  + [Running Queries](http://docs.google.com/database/queries.html)
  + [Generating Query Results](http://docs.google.com/database/results.html)
  + [Query Helper Functions](http://docs.google.com/database/helpers.html)
  + [Query Builder Class](http://docs.google.com/database/query_builder.html)
  + [Transactions](http://docs.google.com/database/transactions.html)
  + [Getting MetaData](http://docs.google.com/database/metadata.html)
  + [Custom Function Calls](http://docs.google.com/database/call_function.html)
  + [Query Caching](http://docs.google.com/database/caching.html)
  + [Database Manipulation with Database Forge](http://docs.google.com/database/forge.html)
  + [Database Utilities Class](http://docs.google.com/database/utilities.html)
  + [Database Driver Reference](http://docs.google.com/database/db_driver_reference.html)
* [Helpers](http://docs.google.com/helpers/index.html)
  + [Array Helper](http://docs.google.com/helpers/array_helper.html)
  + [CAPTCHA Helper](http://docs.google.com/helpers/captcha_helper.html)
  + [Cookie Helper](http://docs.google.com/helpers/cookie_helper.html)
  + [Date Helper](http://docs.google.com/helpers/date_helper.html)
  + [Directory Helper](http://docs.google.com/helpers/directory_helper.html)
  + [Download Helper](http://docs.google.com/helpers/download_helper.html)
  + [Email Helper](http://docs.google.com/helpers/email_helper.html)
  + [File Helper](http://docs.google.com/helpers/file_helper.html)
  + [Form Helper](http://docs.google.com/helpers/form_helper.html)
  + [HTML Helper](http://docs.google.com/helpers/html_helper.html)
  + [Inflector Helper](http://docs.google.com/helpers/inflector_helper.html)
  + [Language Helper](http://docs.google.com/helpers/language_helper.html)
  + [Number Helper](http://docs.google.com/helpers/number_helper.html)
  + [Path Helper](http://docs.google.com/helpers/path_helper.html)
  + [Security Helper](http://docs.google.com/helpers/security_helper.html)
  + [Smiley Helper](http://docs.google.com/helpers/smiley_helper.html)
  + [String Helper](http://docs.google.com/helpers/string_helper.html)
  + [Text Helper](http://docs.google.com/helpers/text_helper.html)
  + [Typography Helper](http://docs.google.com/helpers/typography_helper.html)
  + [URL Helper](http://docs.google.com/helpers/url_helper.html)
  + [XML Helper](http://docs.google.com/helpers/xml_helper.html)

Toggle Table of Contents

[CodeIgniter](http://docs.google.com/index.html)

* [Welcome to CodeIgniter](http://docs.google.com/general/welcome.html)
* [Installation Instructions](http://docs.google.com/installation/index.html)
  + [Downloading CodeIgniter](http://docs.google.com/installation/downloads.html)
  + [Installation Instructions](http://docs.google.com/installation/index.html)
  + [Upgrading From a Previous Version](http://docs.google.com/installation/upgrading.html)
  + [Troubleshooting](http://docs.google.com/installation/troubleshooting.html)
* [CodeIgniter Overview](http://docs.google.com/overview/index.html)
  + [Getting Started](http://docs.google.com/overview/getting_started.html)
  + [CodeIgniter at a Glance](http://docs.google.com/overview/at_a_glance.html)
  + [Supported Features](http://docs.google.com/overview/features.html)
  + [Application Flow Chart](http://docs.google.com/overview/appflow.html)
  + [Model-View-Controller](http://docs.google.com/overview/mvc.html)
  + [Architectural Goals](http://docs.google.com/overview/goals.html)
* [Tutorial](http://docs.google.com/tutorial/index.html)
  + [Static pages](http://docs.google.com/tutorial/static_pages.html)
  + [News section](http://docs.google.com/tutorial/news_section.html)
  + [Create news items](http://docs.google.com/tutorial/create_news_items.html)
  + [Conclusion](http://docs.google.com/tutorial/conclusion.html)
* [Contributing to CodeIgniter](http://docs.google.com/contributing/index.html)
  + [Writing CodeIgniter Documentation](http://docs.google.com/documentation/index.html)
  + [Developer’s Certificate of Origin 1.1](http://docs.google.com/DCO.html)
* [General Topics](http://docs.google.com/general/index.html)
  + [CodeIgniter URLs](http://docs.google.com/general/urls.html)
  + [Controllers](http://docs.google.com/general/controllers.html)
  + [Reserved Names](http://docs.google.com/general/reserved_names.html)
  + [Views](http://docs.google.com/general/views.html)
  + [Models](http://docs.google.com/general/models.html)
  + [Helpers](http://docs.google.com/general/helpers.html)
  + [Using CodeIgniter Libraries](http://docs.google.com/general/libraries.html)
  + [Creating Libraries](http://docs.google.com/general/creating_libraries.html)
  + [Using CodeIgniter Drivers](http://docs.google.com/general/drivers.html)
  + [Creating Drivers](http://docs.google.com/general/creating_drivers.html)
  + [Creating Core System Classes](http://docs.google.com/general/core_classes.html)
  + [Creating Ancillary Classes](http://docs.google.com/general/ancillary_classes.html)
  + [Hooks - Extending the Framework Core](http://docs.google.com/general/hooks.html)
  + [Auto-loading Resources](http://docs.google.com/general/autoloader.html)
  + [Common Functions](http://docs.google.com/general/common_functions.html)
  + [Compatibility Functions](http://docs.google.com/general/compatibility_functions.html)
  + [URI Routing](http://docs.google.com/general/routing.html)
  + [Error Handling](http://docs.google.com/general/errors.html)
  + [Caching](http://docs.google.com/general/caching.html)
  + [Profiling Your Application](http://docs.google.com/general/profiling.html)
  + [Running via the CLI](http://docs.google.com/general/cli.html)
  + [Managing your Applications](http://docs.google.com/general/managing_apps.html)
  + [Handling Multiple Environments](http://docs.google.com/general/environments.html)
  + [Alternate PHP Syntax for View Files](http://docs.google.com/general/alternative_php.html)
  + [Security](http://docs.google.com/general/security.html)
  + [PHP Style Guide](http://docs.google.com/general/styleguide.html)
* [Libraries](http://docs.google.com/index.html)
  + [Benchmarking Class](http://docs.google.com/benchmark.html)
  + [Caching Driver](http://docs.google.com/caching.html)
  + [Calendaring Class](http://docs.google.com/calendar.html)
  + [Shopping Cart Class](http://docs.google.com/cart.html)
  + [Config Class](http://docs.google.com/config.html)
  + [Email Class](http://docs.google.com/email.html)
  + [Encrypt Class](http://docs.google.com/encrypt.html)
  + [Encryption Library](http://docs.google.com/encryption.html)
  + [File Uploading Class](http://docs.google.com/file_uploading.html)
  + [Form Validation](http://docs.google.com/form_validation.html)
  + [FTP Class](http://docs.google.com/ftp.html)
  + [Image Manipulation Class](http://docs.google.com/image_lib.html)
  + [Input Class](http://docs.google.com/input.html)
  + [Javascript Class](http://docs.google.com/javascript.html)
  + [Language Class](http://docs.google.com/language.html)
  + [Loader Class](http://docs.google.com/loader.html)
  + [Migrations Class](#gjdgxs)
  + [Output Class](http://docs.google.com/output.html)
  + [Pagination Class](http://docs.google.com/pagination.html)
  + [Template Parser Class](http://docs.google.com/parser.html)
  + [Security Class](http://docs.google.com/security.html)
  + [Session Library](http://docs.google.com/sessions.html)
  + [HTML Table Class](http://docs.google.com/table.html)
  + [Trackback Class](http://docs.google.com/trackback.html)
  + [Typography Class](http://docs.google.com/typography.html)
  + [Unit Testing Class](http://docs.google.com/unit_testing.html)
  + [URI Class](http://docs.google.com/uri.html)
  + [User Agent Class](http://docs.google.com/user_agent.html)
  + [XML-RPC and XML-RPC Server Classes](http://docs.google.com/xmlrpc.html)
  + [Zip Encoding Class](http://docs.google.com/zip.html)
* [Database Reference](http://docs.google.com/database/index.html)
  + [Quick Start: Usage Examples](http://docs.google.com/database/examples.html)
  + [Database Configuration](http://docs.google.com/database/configuration.html)
  + [Connecting to a Database](http://docs.google.com/database/connecting.html)
  + [Running Queries](http://docs.google.com/database/queries.html)
  + [Generating Query Results](http://docs.google.com/database/results.html)
  + [Query Helper Functions](http://docs.google.com/database/helpers.html)
  + [Query Builder Class](http://docs.google.com/database/query_builder.html)
  + [Transactions](http://docs.google.com/database/transactions.html)
  + [Getting MetaData](http://docs.google.com/database/metadata.html)
  + [Custom Function Calls](http://docs.google.com/database/call_function.html)
  + [Query Caching](http://docs.google.com/database/caching.html)
  + [Database Manipulation with Database Forge](http://docs.google.com/database/forge.html)
  + [Database Utilities Class](http://docs.google.com/database/utilities.html)
  + [Database Driver Reference](http://docs.google.com/database/db_driver_reference.html)
* [Helpers](http://docs.google.com/helpers/index.html)
  + [Array Helper](http://docs.google.com/helpers/array_helper.html)
  + [CAPTCHA Helper](http://docs.google.com/helpers/captcha_helper.html)
  + [Cookie Helper](http://docs.google.com/helpers/cookie_helper.html)
  + [Date Helper](http://docs.google.com/helpers/date_helper.html)
  + [Directory Helper](http://docs.google.com/helpers/directory_helper.html)
  + [Download Helper](http://docs.google.com/helpers/download_helper.html)
  + [Email Helper](http://docs.google.com/helpers/email_helper.html)
  + [File Helper](http://docs.google.com/helpers/file_helper.html)
  + [Form Helper](http://docs.google.com/helpers/form_helper.html)
  + [HTML Helper](http://docs.google.com/helpers/html_helper.html)
  + [Inflector Helper](http://docs.google.com/helpers/inflector_helper.html)
  + [Language Helper](http://docs.google.com/helpers/language_helper.html)
  + [Number Helper](http://docs.google.com/helpers/number_helper.html)
  + [Path Helper](http://docs.google.com/helpers/path_helper.html)
  + [Security Helper](http://docs.google.com/helpers/security_helper.html)
  + [Smiley Helper](http://docs.google.com/helpers/smiley_helper.html)
  + [String Helper](http://docs.google.com/helpers/string_helper.html)
  + [Text Helper](http://docs.google.com/helpers/text_helper.html)
  + [Typography Helper](http://docs.google.com/helpers/typography_helper.html)
  + [URL Helper](http://docs.google.com/helpers/url_helper.html)
  + [XML Helper](http://docs.google.com/helpers/xml_helper.html)

[CodeIgniter](http://docs.google.com/index.html)

* [Docs](http://docs.google.com/index.html) »
* [Libraries](http://docs.google.com/index.html) »
* Migrations Class

classic layout

Migrations Class[**¶**](#30j0zll)

Migrations are a convenient way for you to alter your database in a structured and organized manner. You could edit fragments of SQL by hand but you would then be responsible for telling other developers that they need to go and run them. You would also have to keep track of which changes need to be run against the production machines next time you deploy.

The database table **migration** tracks which migrations have already been run so all you have to do is update your application files and call $this->migration->current() to work out which migrations should be run. The current version is found in **application/config/migration.php**.

* [Migration file names](#1fob9te)
* [Create a Migration](#3znysh7)
* [Usage Example](#2et92p0)
* [Migration Preferences](#tyjcwt)
* [Class Reference](#3dy6vkm)

[**Migration file names**](#1t3h5sf)[**¶**](#1fob9te)

Each Migration is run in numeric order forward or backwards depending on the method taken. Two numbering styles are available:

* **Sequential:** each migration is numbered in sequence, starting with **001**. Each number must be three digits, and there must not be any gaps in the sequence. (This was the numbering scheme prior to CodeIgniter 3.0.)
* **Timestamp:** each migration is numbered using the timestamp when the migration was created, in **YYYYMMDDHHIISS** format (e.g. **20121031100537**). This helps prevent numbering conflicts when working in a team environment, and is the preferred scheme in CodeIgniter 3.0 and later.

The desired style may be selected using the $config['migration\_type'] setting in your *application/config/migration.php* file.

Regardless of which numbering style you choose to use, prefix your migration files with the migration number followed by an underscore and a descriptive name for the migration. For example:

* 001\_add\_blog.php (sequential numbering)
* 20121031100537\_add\_blog.php (timestamp numbering)

[**Create a Migration**](#4d34og8)[**¶**](#3znysh7)

This will be the first migration for a new site which has a blog. All migrations go in the **application/migrations/** directory and have names such as *20121031100537\_add\_blog.php*.

<?php  
  
defined('BASEPATH') OR exit('No direct script access allowed');  
  
class Migration\_Add\_blog extends CI\_Migration {  
  
 public function up()  
 {  
 $this->dbforge->add\_field(array(  
 'blog\_id' => array(  
 'type' => 'INT',  
 'constraint' => 5,  
 'unsigned' => TRUE,  
 'auto\_increment' => TRUE  
 ),  
 'blog\_title' => array(  
 'type' => 'VARCHAR',  
 'constraint' => '100',  
 ),  
 'blog\_description' => array(  
 'type' => 'TEXT',  
 'null' => TRUE,  
 ),  
 ));  
 $this->dbforge->add\_key('blog\_id', TRUE);  
 $this->dbforge->create\_table('blog');  
 }  
  
 public function down()  
 {  
 $this->dbforge->drop\_table('blog');  
 }  
}

Then in **application/config/migration.php** set $config['migration\_version'] = 20121031100537;.

[**Usage Example**](#2s8eyo1)[**¶**](#2et92p0)

In this example some simple code is placed in **application/controllers/Migrate.php** to update the schema.:

<?php  
  
class Migrate extends CI\_Controller  
{  
  
 public function index()  
 {  
 $this->load->library('migration');  
  
 if ($this->migration->current() === FALSE)  
 {  
 show\_error($this->migration->error\_string());  
 }  
 }  
  
}

[**Migration Preferences**](#17dp8vu)[**¶**](#tyjcwt)

The following is a table of all the config options for migrations.

|  |  |  |  |
| --- | --- | --- | --- |
| Preference | Default | Options | Description |
| **migration\_enabled** | FALSE | TRUE / FALSE | Enable or disable migrations. |
| **migration\_path** | APPPATH.’migrations/’ | None | The path to your migrations folder. |
| **migration\_version** | 0 | None | The current version your database should use. |
| **migration\_table** | migrations | None | The table name for storing the schema version number. |
| **migration\_auto\_latest** | FALSE | TRUE / FALSE | Enable or disable automatically running migrations. |
| **migration\_type** | ‘timestamp’ | ‘timestamp’ / ‘sequential’ | The type of numeric identifier used to name migration files. |

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

*class* CI\_Migration[¶](#26in1rg) current()[¶](#lnxbz9)

|  |  |
| --- | --- |
| Returns: | TRUE if no migrations are found, current version string on success, FALSE on failure |
| Return type: | mixed |

Migrates up to the current version (whatever is set for $config['migration\_version'] in *application/config/migration.php*).

error\_string()[¶](#35nkun2)

|  |  |
| --- | --- |
| Returns: | Error messages |
| Return type: | string |

This returns a string of errors that were detected while performing a migration.

find\_migrations()[¶](#1ksv4uv)

|  |  |
| --- | --- |
| Returns: | An array of migration files |
| Return type: | array |

An array of migration filenames are returned that are found in the **migration\_path** property.

latest()[¶](#44sinio)

|  |  |
| --- | --- |
| Returns: | Current version string on success, FALSE on failure |
| Return type: | mixed |

This works much the same way as current() but instead of looking for the $config['migration\_version'] the Migration class will use the very newest migration found in the filesystem.

version(*$target\_version*)[¶](#2jxsxqh)

|  |  |
| --- | --- |
| Parameters: | * **$target\_version** (*mixed*) – Migration version to process |
| Returns: | TRUE if no migrations are found, current version string on success, FALSE on failure |
| Return type: | mixed |

Version can be used to roll back changes or step forwards programmatically to specific versions. It works just like current() but ignores $config['migration\_version'].

$this->migration->version(5);

[Next](http://docs.google.com/output.html)   [Previous](http://docs.google.com/loader.html)

© Copyright 2014 - 2018, British Columbia Institute of Technology. Last updated on Jun 12, 2018.

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).