



Web Adv

PHP: Codeigniter (CI)

DE HOGESCHOOL MET HET NETWERK

Hogeschool PXL – Dep. PXL-IT – Elfde-Liniestraat 26 – B-3500 Hasselt
www.pxl.be - www.pxl.be/facebook



MVC-framework

Centraal idee

Code wordt opgesplitst in 3: Model, View en Controller

Voordelen:

Beter leesbare, eenvoudiger te onderhouden code

Veel voorgedefinieerde plugins, libraries:

- Captcha
- Form validatie
- XSS bescherming
- ...

MVC

Controller

ontvangt HTTP-request
vanuit de controller wordt view en model aangeroepen

Model = interactie met externe data (MySQL)

View = presentatie (HTML, CSS)

*The model-view-controller (MVC) pattern lets you break up code into logical objects that serve very specific purposes. **Models** serve as a data access layer where data is fetched and returned in format usable throughout your application.*

***Controllers** handle the request, process the data returned from models and load views to send in the response. And **views** are display templates (markup, xml, etc) that are sent in the response to the web browser.*

Installatie

Download via <https://github.com/codeigniter4/framework>

Kopieer de inhoud van de map framework-master naar /var/www/html

Map /var/www/html/public/ moet DocumentRoot v. server zijn.

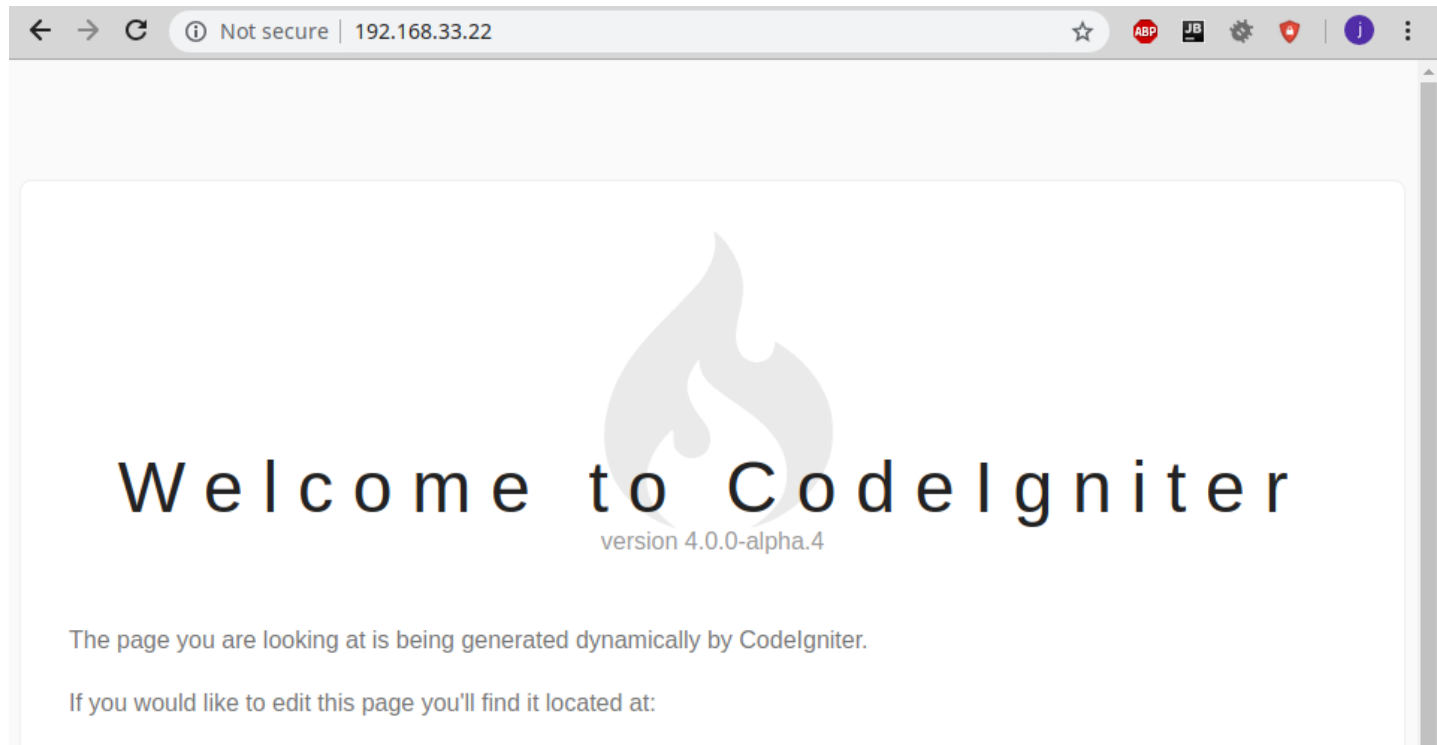
Pas /etc/apache2/sites-available/000-default.conf aan:

```
<VirtualHost *:80>
  DocumentRoot "/var/www/html/public/"
  ServerName webadv
  ServerAlias webadv
  <Directory "/var/www/html/public/">
    AllowOverride All
    Require all granted
  </Directory>
</VirtualHost>
```



herstart de service apache2: `sudo service apache2 restart`

Voorbeeld1



<http://192.168.33.22/>

<http://192.168.33.22/index.php>

<http://192.168.33.22/Home>

<http://192.168.33.22/home>

<http://192.168.33.22/index.php/Home>

<http://192.168.33.22/Home/index>

...

app/Config/app.php

```
<?php namespace Config;

use \CodeIgniter\Config\BaseConfig;

class App extends BaseConfig
{
    /*
    |-----
    | Base Site URL
    |-----
    */
    public $baseURL = 'http://192.168.33.22/';
    ...
}
```

Routing:

URL --> methode uit Controller class

altijd geldt

http://192.168.33.22/index.php/**Home/index** --> class Home method index

http://192.168.33.22/**Home/index** --> class Home method index

bijkomende regels in app/Config/Routes.php

app/Config/Routes.php

```
...  
$routes->setDefaultController('Home');  
$routes->setDefaultMethod('index');  
...
```

Configuratie in Routes.php:

http://192.168.33.22/**Home**

http://192.168.33.22/

--> class Home, default method index

--> default class Home,
default method index

app/Config/Routes.php

```
...  
$routes->setDefaultController('Home');  
$routes->setDefaultMethod('index');  
...  
$routes->get('/', 'Home::index');
```

http://192.168.33.22/

--> class Home, method index

app/Controllers/Home.php

```
<?php namespace App\Controllers;

use \CodeIgniter\Controller;

class Home extends Controller
{
    public function index()
    {
        return view('welcome_message');
    }
}
```

view welcome_message wordt geladen

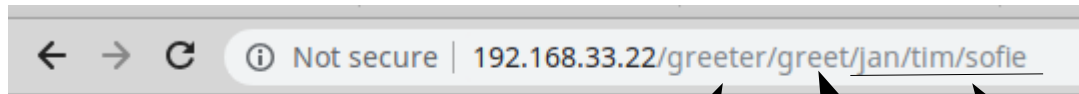
app/views/welcome-message.php

```
<!doctype html>
<html>
  <head>
    <title>Welcome to CodeIgniter</title>

  </head>
  <body>
    ...
    <div class="guide">
      <p>The page you are looking at is being
        generated dynamically by
        CodeIgniter.</p>
    </div>

  </body>
</html>
```

Voorbeeld2: Greeter



class Greeter

argumenten van
greet

methode greet

app/Controller/Greeter.php

```
<?php namespace App\Controllers;

use \CodeIgniter\Controller;

class Greeter extends Controller
{
    public function greet()
    {
        $who=func_get_args();
        $data=['who'=>$who];
        return view('greet_view',$data);
    }
}
```

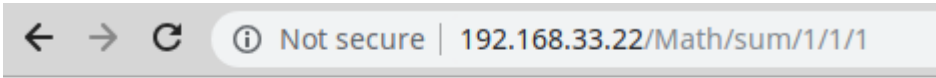
De view `greet_view` wordt geladen,
de array `$data` met key `'who'` wordt meegegeven aan de view

app/views/greet_view.php

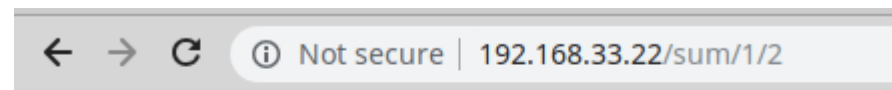
```
<!doctype html>
<html>
  <head>
    <title>Welcome</title>
  </head>
  <body>
    Hallo
    <?php print(implode(", ", $who)); ?>
  </body>
</html>
```

variabele \$who uit functie index in de
controller Greeter

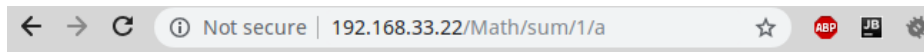
Voorbeeld3: Math



1 + 1 + 1 = 3

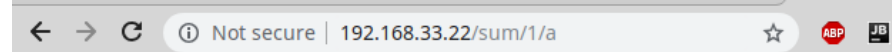


1 + 2 = 3



404 - File Not Found

Sorry! Cannot seem to find the page you were looking for.



404 - File Not Found

Controller or its method is not found: {0}::{1}

app/Config/Routes.php

```
...  
$routes->get('sum/(\d+)/(\d+)', 'Math::sum/$1/$2');  
...
```

Route adhv regex

```
<?php namespace App\Controllers;
use \CodeIgniter\Controller;
use \CodeIgniter\Exceptions\PageNotFoundException;

class Math extends Controller
{
    public function sum()
    {
        $numbers = func_get_args();
        $sum = 0;
        foreach($numbers as $number) {
            if (! preg_match('/^\s*\d+\s*$/', $number)) {
                throw new PageNotFoundException();
            }
            $sum += $number;
        }
        $data=['numbers'=>$numbers, 'sum'=>$sum];
        return view('sum_view', $data);
    }
}
```


app/views/sum_view.php

```
<!doctype html>
<html>
  <head>
    <title>Sum</title>

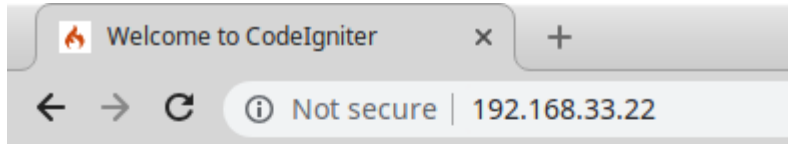
  </head>
  <body>

    <?php print(implode("+ ", $numbers)); ?>
    =
    <?php print($sum); ?>

  </body>
</html>
```

Voorbeeld4: helpers

CSS, JS, images in de map public/assets



[My News](#)

```
base_url = http://192.168.33.22/
```

```
site_url = http://192.168.33.22/index.php
```

html-helper: link_tag, script_tag, img,
url-helper: anchor, base_url

https://codeigniter4.github.io/CodeIgniter4/helpers/url_helper.html

https://codeigniter.com/user_guide/helpers/html_helper.html



app/Controllers/Home.php

```
<?php namespace App\Controllers;

use \CodeIgniter\Controller;

class Home extends Controller
{
    public function index()
    {
        helper(['url', 'html']);
        return view('welcome_message');
    }
}
```

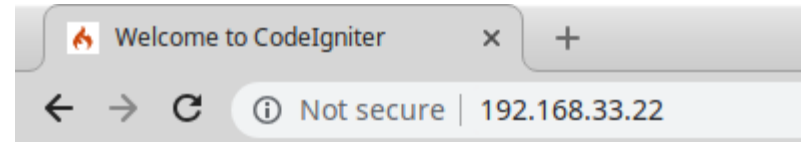
app/views/welcome-message.php

```
<!doctype html>
<html>
  <head>
    <title>Welcome to CodeIgniter</title>
    <?php print (link_tag('assets/css/mystyle.css'));?>
  </head>
  <body>
    <?php
      $imageProperties = [
        'src'      => 'assets/images/pxl_it.png',
        'alt'      => 'PXL IT logo',
        'width'    => '200',
      ];

      print(img($imageProperties));
      print(anchor('news/1', 'My News'));
    ?>
    <pre> base_url = <?php print(base_url()); ?></pre>
    <pre> site_url = <?php print(site_url()); ?></pre>
    <?php print(script_tag('assets/js/mystyle.js'));?>
  </body>
</html>
```

`link_tag('assets/css/mystyle.css')`

```
1 <!doctype html>
2 <html>
3   <head>
4     <title>Welcome to CodeIgniter</title>
5     <link href="http://192.168.33.22/assets/css/mystyle.css" rel="stylesheet" type="text/css" />    </head>
6   <body>
7     
8     <a href="http://192.168.33.22/index.php/news/1">My News</a>    <pre> base_url = http://192.168.33.22/</pre>
9     <pre> site_url = http://192.168.33.22/index.php</pre>
10    <script src="http://192.168.33.22/assets/js/myjavascript.js" type="text/javascript"></script>    </body>
11  </html>
12
```

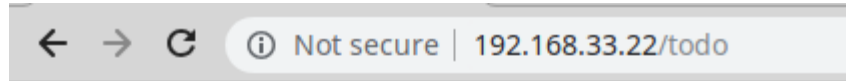


[My News](#)

base_url = http://192.168.33.22/

site_url = http://192.168.33.22/index.php

Voorbeeld4: database



Totaal: 29

- 1 0 Planten water geven.
- 2 2 Koken.
- 3 2 Afwassen.
- 4 2 ...
- 5 1 ...
- 6 2 ...
- 7 2 ...
- 8 1 ...
- 9 2 ...
- 10 2 ...

```
DROP DATABASE IF EXISTS todo;
CREATE DATABASE IF NOT EXISTS todo;
USE todo;
DROP TABLE IF EXISTS `todolist`;
CREATE TABLE IF NOT EXISTS `todolist` (`id` int auto_increment, `priority` int,
`text` text, primary key (`id`));
INSERT INTO `todolist` (`id`, `priority`, `text`) VALUES
(1, 0, 'Planten water geven.'),
(2, 2, 'Koken.'),
(3, 2, 'Afwassen.'),
(4, 2, '...'),
(5, 1, '...'),
(6, 2, '...'),
(7, 2, '...'),
(8, 1, '...'),
(9, 2, '...'),
(10, 2, '...'),
(11, 0, '...'),
(12, 2, '...'),
(13, 0, '...'),
(14, 2, '...'),
(15, 1, '...'),
(16, 2, '...'),
(17, 2, '...'),
(18, 0, '...'),
(19, 2, '...'),
(20, 2, '...'),
(21, 0, '...'),
(22, 2, '...'),
(23, 0, '...'),
(24, 2, '...'),
(25, 1, '...'),
(26, 2, '...'),
(27, 2, '...'),
(28, 0, '...'),
(29, 2, '...');
```

```
/**
 * The default database connection.
 */
public $default = [
    'DSN'          => '',
    'hostname'     => 'localhost',
    'username'     => 'root',
    'password'     => 'root',
    'database'     => 'todolist',
    'DBDriver'     => 'MySQLi',
    'DBPrefix'     => '',
    'pConnect'     => false,
    'DBDebug'      => (ENVIRONMENT !== 'production'),
    'cacheOn'      => false,
    'cacheDir'     => '',
    'charset'      => 'utf8',
    'DBCollat'     => 'utf8_general_ci',
    'swapPre'      => '',
    'encrypt'      => false,
    'compress'     => false,
    'strictOn'     => false,
    'failover'     => [],
    'port'         => 3306,
];
```



```
<?php namespace App\Models;
use CodeIgniter\Model;

class ToDoModel extends Model
{
    protected $table = 'todolist';
    protected $returnType = '\App\Entities\Todo';
    protected $allowedFields = [ 'priority', 'text' ];

    public function countTodo()
    {
        $query = $this->db->query(
            'SELECT COUNT(*) AS count FROM '. $this->table);
        $result = $query->getResult();
        return $result[0]->count;
    }
}
```

methode findAll, insert, update: gedefinieerd in Model
allowedFields: list all of the field names that can be changed
during inserts (methode insert) and updates (methode update)


```
<?php namespace App\Entities;
class Todo
{
    protected $id;
    protected $priority;
    protected $text;

    public function __get($key)
    {
        if (property_exists($this, $key)) {
            return $this->$key;
        }
    }

    public function __set($key, $value)
    {
        if (property_exists($this, $key)) {
            $this->$key = $value;
        }
    }
}
```

app/Controllers/ToDo.php

```
<?php namespace App\Controllers;

use \CodeIgniter\Controller;
use \CodeIgniter\Exceptions\PageNotFoundException;
use \App\Models\ToDoModel;

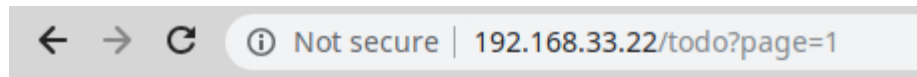
class ToDo extends Controller
{

    public function index()
    {
        $todoModel=new ToDoModel();
        $count = $todoModel->countToDo();
        $todoList=$todoModel->findAll(10,0);
        $data=[    'todoList'=>$todoList,
                  'count' => $count    ];
        return view('todo_view',$data);
    }
}
```

app/Views/todo_view.php

```
<!doctype html>
<html>
  <head>
    <title>Todo</title>
  </head>
  <body>
    Totaal: <?php print($count);?>
    <table>
      <?php
        foreach($todoList as $todoItem){
          print("<tr><td>".
            $todoItem->id . "</td><td>" .
            $todoItem->priority . "</td><td>" .
            $todoItem->text . "</td></tr>" );
        }
      ?>
    </table>
  </body>
</html>
```

Voorbeeld5: pagination



Totaal: 29

- [1](#)
- [2](#)
- [3](#)
- [»](#)
- [Last](#)

1 0 Planten water geven.

2 2 Koken.

3 2 Afwassen.

4 2 ...

5 1 ...

app/Controllers/ToDo.php

```
<?php namespace App\Controllers;
use \CodeIgniter\Controller;
use \CodeIgniter\Exceptions\PageNotFoundException;
use \App\Models\ToDoModel;

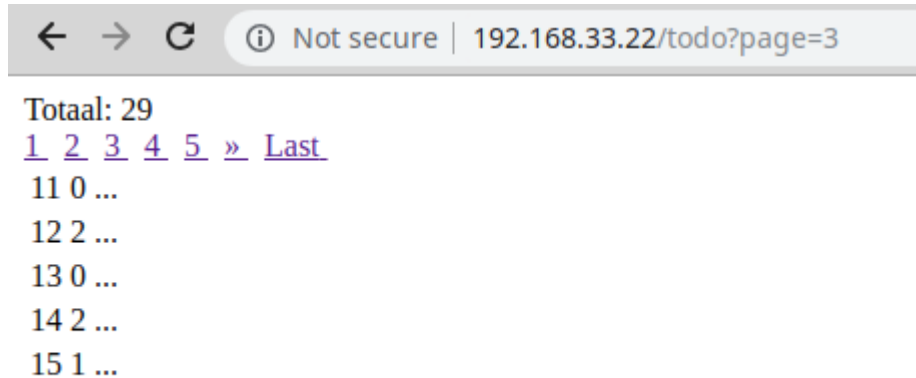
class ToDo extends Controller
{

    public function index()
    {
        $todoModel=new ToDoModel();
        $count = $todoModel->countToDo();
        $todoList = $todoModel->paginate(5);
        $data = [ 'todoList'=>$todoList,
                  'count' => $count,
                  'pager' => $todoModel->pager  ];
        return view('todo_view',$data);
    }
}
```

app/Views/todo_view.php

```
<!doctype html>
<html>
  <head>
    <title>Todo</title>
  </head>
  <body>
    Totaal: <?php print($count);?>
    <?php print($pager->links()); ?>
    <table>
      <?php
        foreach($todoList as $todoItem){
          print("<tr><td>".
            $todoItem->id . "</td><td>" .
            $todoItem->priority . "</td><td>" .
            $todoItem->text . "</td></tr>" );
        }
      ?>
    </table>
  </body>
</html>
```

Voorbeeld6: pagination (view)



System/Pager/Views/default_full.php

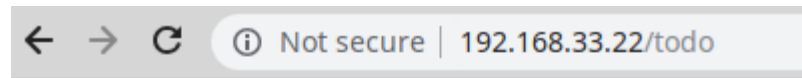
```
<?php
/**
 * @var \CodeIgniter\Pager\PagerRenderer $pager
 */

$pager->setSurroundCount(2);
?>

<nav aria-label="<?= lang('Pager.pageNavigation') ?>">
    <span class="pagination"><span>
        <?php if ($pager->hasPrevious()) : ?>
            <span>
                <a href="<?= $pager->getFirst() ?>" aria-label="<?= lang('Pager.first') ?>">
                    <span aria-hidden="true"><?= lang('Pager.first') ?></span>
                </a>
                &nbsp;
            </span>
            <span>
                <a href="<?= $pager->getPrevious() ?>" aria-label="<?=
lang('Pager.previous') ?>">
                    <span aria-hidden="true">&laquo;</span></span>
                </a>
                &nbsp;
            </span>
        <?php endif ?>

        <?php foreach ($pager->links() as $link) : ?>
            <span <?= $link['active'] ? 'class="active"' : '' ?>>
                <a href="<?= $link['uri'] ?>">
                    <?= $link['title'] ?>
                </a>
                &nbsp;
            </span>
        <?php endforeach ?>
    </span>
</nav>
```


Voorbeeld 7: edit



Totaal: 29

[1](#) [2](#) [3](#) [»](#) [Last](#)

1 0 Planten water geven.

2 2 Koken.

3 2 Afwassen.

4 1 iets anders

5 1 ...

[EDIT](#)



Totaal: 29

[1](#) [2](#) [3](#) [»](#) [Last](#)

1	<input type="text" value="0"/>	<input type="text" value="Planten water geven."/>	<input type="button" value="EDIT"/>
2	<input type="text" value="2"/>	<input type="text" value="Koken."/>	<input type="button" value="EDIT"/>
3	<input type="text" value="2"/>	<input type="text" value="Afwassen."/>	<input type="button" value="EDIT"/>
4	<input type="text" value="1"/>	<input type="text" value="iets anders"/>	<input type="button" value="EDIT"/>
5	<input type="text" value="1"/>	<input type="text" value="..."/>	<input type="button" value="EDIT"/>

[BACK](#)

```
<?php namespace App\Controllers;
use \CodeIgniter\Controller;
use \CodeIgniter\Exceptions\PageNotFoundException;
use \App\Models\ToDoModel;

class ToDo extends Controller
{
    public function index()
    {
        helper(['url', 'html']);
        $todoModel=new ToDoModel();
        $count = $todoModel->countToDo();
        $todoList = $todoModel->paginate(5);
        $page = $this->request->getGet('page');
        $data=[ 'todoList' => $todoList,
                'count' => $count,
                'pager' => $todoModel->pager,
                'page' => $page ];
        return view('todo_view',$data);
    }
    ...
}
```

```
public function edit()
{
    helper(['url', 'html', 'form']);
    $todoModel=new TodoModel();
    $submit = $this->request->getPost('submit');
    if ($submit != null){
        $id= $this->request->getPost('id');
        $text = $this->request->getPost('text');
        $priority = $this->request->getPost('priority');
        $todoModel->update($id,
            [ 'text' => $text,
              'priority' => $priority]
        );
    }
    $count = $todoModel->countTodo();
    $todoList = $todoModel->paginate(5);
    $page = $this->request->getGet('page');
    $data=[ 'todoList'=> $todoList,
            'count' => $count,
            'pager' => $todoModel->pager,
            'page' => $page ];
    return view('todo_edit_view',$data);
}
}
```

app/Views/todo_view.php

```
<!doctype html>
<html>
  <head>
    <title>Todo</title>

  </head>
  <body>
    Totaal: <?php print($count);?>
    <?php print($pager->links()); ?>
    <table>
      <?php
        foreach($todoList as $todoItem) {
          print("<tr><td>". $todoItem->id . "</td><td>" .
              $todoItem->priority . "</td><td>" .
              $todoItem->text . "</td></tr>" );
        }
      ?>
    </table>
    <?php print(anchor('/todo/edit?page=' . $page,
        'EDIT')) ;?>
  </body>
</html>
```

app/Views/todo_edit_view.php

```
<!doctype html>
<html>
  <head>
    <title>Todo</title>
  </head>
  <body>
    Totaal: <?php print($count);?>
    <?php print($pager->links()); ?>
    <table>
      <?php
        foreach($todoList as $todoItem){
          print(form_open('/todo/edit?page=' . $page));
          print('<tr><td>');
          print(form_input([
            'name' => 'id',
            'value' => $todoItem->id,
            'type' => 'hidden'
          ]));
          print($todoItem->id);
```

app/Views/todo_edit_view.php

```
        print('</td><td>');
        print(form_input([
            'name' => 'priority',
            'value' => $todoItem->priority
        ]));
        print('</td><td>');
        print(form_input([
            'name' => 'text',
            'value' => $todoItem->text
        ]));
        print(form_submit([
            'name' => 'submit',
            'value' => 'EDIT'
        ]));
        print('</td></tr>');
        print(form_close());
    }
?>
</table>
<?php print(anchor('/todo?page=' . $page, 'BACK'));?>
</body>
```

Voorbeeld 8: validation

Totaal: 29

[1](#) [2](#) [3](#) [»](#) [Last](#)

1	<input type="text" value="0"/>	<input type="text" value="a"/>	<input type="button" value="EDIT"/>
2	<input type="text" value="2"/>	<input type="text" value="Koken."/>	<input type="button" value="EDIT"/>
3	<input type="text" value="2"/>	<input type="text" value="Afwassen."/>	<input type="button" value="EDIT"/>
4	<input type="text" value="1"/>	<input type="text" value="iets anders"/>	<input type="button" value="EDIT"/>
5	<input type="text" value="1"/>	<input type="text" value="..."/>	<input type="button" value="EDIT"/>

- The text field must be at least 10 characters in length.
- The priority field must contain an integer.

[BACK](#)

```
<?php namespace App\Controllers;
use \CodeIgniter\Controller;
use \CodeIgniter\Exceptions\PageNotFoundException;
use \App\Models\ToDoModel;

class ToDo extends Controller
{
    public function index()
    {
        helper(['url', 'html']);
        $todoModel=new ToDoModel();
        $count = $todoModel->countToDo();
        $todoList = $todoModel->paginate(5);
        $page = $this->request->getGet('page');
        $data=[ 'todoList' => $todoList,
                'count' => $count,
                'pager' => $todoModel->pager,
                'page' => $page ];
        return view('todo_view',$data);
    }
    ...
}
```



```
public function edit()  
{  
    helper(['url', 'html', 'form']);  
    $todoModel=new TodoModel();  
    $submit = $this->request->getPost('submit');  
    if ($submit != null ){  
        $rules=[  
            'text' => ['label' => 'text',  
                        'rules' => 'required|min_length[10]' ],  
            'priority' => ['label' => 'priority',  
                           'rules' => 'required|integer|in_list[1,2,3]']  
        ];  
        $this->validate($rules);  
        $id = $this->request->getPost('id');  
        $text = $this->request->getPost('text');  
        $priority = $this->request->getPost('priority');  
        $todoModel->update($id, [ 'text' => $text,  
                                   'priority' => $priority] );  
    }  
}
```

```
$count = $todoModel->countTodo();  
$todoList = $todoModel->paginate(5);  
$page = $this->request->getGet('page');  
$data=[    'todoList'=> $todoList,  
           'count' => $count,  
           'pager' => $todoModel->pager,  
           'page' => $page,  
           'validator' => $this->validator  
];  
return view('todo_edit_view',$data);  
}  
}
```

app/Views/todo_edit_view.php

```
<!doctype html>
<html>
  <head>
    <title>Todo</title>
  </head>
  <body>
    Totaal: <?php print($count);?>
    <?php print($pager->links()); ?>
    <table>
      <?php
        foreach($todoList as $todoItem){
          print(form_open('/todo/edit?page=' . $page));
          print('<tr><td>');
          print(form_input([
            'name' => 'id',
            'value' => $todoItem->id,
            'type' => 'hidden'
          ]));
          print($todoItem->id);
```

app/Views/todo_edit_view.php

```
        print('</td><td>');
        print(form_input([
            'name' => 'priority',
            'value' => $todoItem->priority
        ]));
        print('</td><td>');
        print(form_input([
            'name' => 'text',
            'value' => $todoItem->text
        ]));
        print(form_submit([
            'name' => 'submit',
            'value' => 'EDIT'
        ]));
        print('</td></tr>');
        print(form_close());
    }
?>
</table>
<?php print ($validator ==null ?
    "" : $validator->listErrors()); ?>
<?php print(anchor('/todo?page='. $page, 'BACK'));?>
</body>
```